Assessing the Contributions of Higher Education

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Knowledge for a Disordered World

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Preface

Higher education is a vast sector that has become entwined with almost every other part of contemporary human societies. Yet what higher education does and its mutual effects in other sectors are poorly understood. This book began in our frustration with the prevailing ideas about the outcomes of higher education. Like many others we have long been aware of the neglect in policy economics of much of the real work of higher education, including its production of public and common goods, and the global dimension of its activities. Further, while as scholars of higher education we are conscious of education's capacity to augment the life potentials of individuals, to confine the individualised outcomes of higher education to earnings, or occupational status, has always seemed to us much too narrow. The problem is that the broader contributions of higher education are under-theorised and hence rarely subject to systematic observation and measurement. Neither economics/political economy nor sociology have come close to achieving a definitive and comprehensive accounting.

From the beginning of our project it was clear that this was not going to be an easy problem to resolve. At the meeting of researchers of higher education in Moscow in September 2018, where the work was first discussed, it was agreed that at least some outcomes of higher education were always going to largely elude measurement. Some researchers (perhaps most) were also sceptical about whether a homogenous categorisation of the contributions of higher education, using a single intellectual framework, was possible, or desirable. Nevertheless, all agreed that it was crucially necessary to take forward the social science understanding of the contributions of higher education. All were aware of the damage being done by superficial and limiting ideas.

The Moscow meeting followed the completion of a four-year project that was published in book form by Oxford University Press in 2018 as *High Participation Systems of Higher Education*. Three of the four editors of this book also organised that project. The high participation systems work focused on the worldwide massification of tertiary education, which is tending towards near universal levels of participation in many countries, and the dynamics of high participation systems: the drivers of growth, the associated changes in governance, horizontal diversity within national higher and tertiary education systems, vertical stratification of systems and the implications of expanding participation for social equity, and longer-term implications of this vast

expansion in role of higher education for its impact in society. In the book these issues were tackled by a voluntary cross-country group of collaborators through a combination of theme chapters and country studies. The high participation study was difficult to complete – it was never underpinned by a project budget and the status of funded research – but was completed successfully. We were confident we had advanced the common understanding of massification, and the qualitative changes associated with high participation, and the book's reviewers confirmed this judgement.

Accordingly, it was decided to develop a similar collaborative project structure in relation to the contributions problem, though the topic was larger and more diverse than massification, and we knew we would be unable to complete the work in one iteration as in the high participation systems book. We decided that we would first develop a volume on a range of topics associated with the contributions of higher education, in order to explore different aspects and approaches. The topics were identified by individual researchers, and acknowledged by the group. We also tentatively planned for a second volume, of national case studies. Higher education in most countries is embedded in national government, with varying degrees of intensity and in differing ways. Both the interpretation and materiality of the contributions of higher education are subject to national variation. The question of what is common across countries, and what is nationally variant, is a keystone issue.

This book, then, is the first fruit of the project. It has deliberately cast the net wide to include economic, political, social and cultural dimensions, and to address global as well as local and national contributions of the sector. It opens up the diversity of the contributions of higher education using several disciplinary lenses. Our role as project convenors and editors has been to manage the development of the individual chapters. Chapter 2 of this book summarises where our own thinking has reached in this stage. In that chapter we argue for a turn away from singular framings of the contributions of higher education, and towards greater complexity, depth and recognition of heterogeneity. While there is broad similarity across the world in the intrinsic functions of higher education – those activities associated with teaching/learning, certification, and research and scholarship – the extrinsic or social-relational activities of higher education are nested in differing contexts around the world and subject to more variation. This suggests that the next steps are on one hand to proceed with the planned set of national case studies, drawing out contextual variations, and on the other to develop a broad common conceptual framework for the contributions of higher education that accommodates (1) the multiple extrinsic relations and effects of higher education, and (2) diverse understandings of higher education, state and society.

The project would not have happened without Isak Froumin, the Director of the Institute of Education at the Higher School of Economics (HSE) in

Moscow until early 2022. We warmly thank Isak, who conceived and championed the project at HSE, secured financial support and worked actively on project design and organisation. We also thank Yaroslav Kuzminov, the Rector of HSE during most of the life of the project, who understands the issues entailed in the political economy of the contributions of higher education, for his support and constructive engagement. At the time this book was being completed the Russian government invaded Ukraine, imposing ruin and devastation and closing down much of Ukrainian higher education and science. These dreadful events were accompanied by the shutdown of discussion and dissent in Russia and a great growth of KGB-style misinformation. All of this has driven a wedge between Russian universities and higher education elsewhere. Hence it is important to place on record the significant achievement of the HSE Institute of Education until February 2022 in fostering free and open cooperation in higher education research, and our hope that in future the HSE will be able to resume its role as a great national and international university. Universities and the life of the mind are not the villains in this piece. They do not drive security-military states and their agendas. Higher education, with its commitments to truth, scholarly reflection and the good of all, is incompatible with warfare, nativist propaganda and fake news. It is among the victims.

We thank the book's contributors, our fellow researchers in higher education studies, for their commitment to this inquiry amid busy professional lives; and for their patience with our requests for revisions, and with the slow pace of the book's gestation. We thank Finn Halligan at Edward Elgar for his cheerful effectiveness and wise counsel, as well as Phillip Thompson and the other excellent production staff at Edward Elgar. It is good to collaborate with a publisher that is committed to producing works of lasting value. We thank the publisher's reviewers, whose suggestions fed into the reordering of the book and triggered numerous changes to Chapter 2.

We also thank each other. As on other occasions it has been a formative experience and a continuing pleasure to work together, as we push forward into uncertain territory.

Chapter 3 shares common passages with a paper by Anna Smolentseva that was published online in the journal *Studies in Higher Education*, on 7 October 2022, titled 'The contributions of higher education to society: a conceptual approach'. Every effort has been made to secure permission from copyright holders to reuse material but if any have been inadvertently overlooked the publishers will be pleased to make the necessary arrangement at the first opportunity.

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Simon Marginson, Brendan Cantwell, Daria Platonova and Anna Smolentseva
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1. Introduction: higher education and the contributions problem

Simon Marginson, Brendan Cantwell, Daria Platonova and Anna Smolentseva

INTRODUCTION

What is 'higher education' and what does it do for persons, organisations, communities, cities, nations and the world? What difference does it make? How do we know?

While these questions and others related to the contributions or effects of higher or tertiary education are discussed across the world, there is no agreement on what are those contributions. The higher education sector is connected to most other parts of society, and it is often difficult or impossible to isolate its discrete causal effects (the 'independence' problem discussed in Chapters 2 and 11). In some quarters a disabling thinking prevails. Higher education is modelled as if all that this vast sector produces is measurable earnings benefits for individual graduates and new research-based products for globally competitive industry. Yet graduate earnings are partly shaped outside education, by family background and economic fluctuations; and higher education not only augments careers, it immerses students in knowledge, and it helps to shape them as people, and has many other individual and collective-social outcomes, as *Assessing the contributions of higher education* will show.

Still, the fact that radical simplifications dominate this debate is not surprising. It is difficult to grasp the full range of what the sector does. There is no universal template and no comprehensive account. Perceptions of what higher education is vary according to beliefs about government and society, and the disciplinary or purposive lens used to view the sector, not to mention the interests at stake. Is both a common *and* comprehensive understanding possible, and if so, how? That question repeatedly returns during this book.

Despite Global Disorder, Higher Education Is Growing

What *is* clear is that the contributions of higher education are larger than at any previous time. Though world geopolitics are increasingly fractured in a new 'Cold War' era, scientific and technological cooperation are at risk, there are large-scale military conflicts in several regions, the human rights of students and academic faculty and the operating autonomy of institutions are often violated, state policies have reduced education mobility in some countries and the global pandemic has imposed unprecedented disruption, human appetites for higher education and knowledge continue to grow at a very rapid pace.

Despite the growing political interference in science (see Chapter 8) the number of published global science papers is increasing by more than 5 per cent per annum (Marginson, 2022). The scale and scope of post-school education grows each year. Higher education is now a very large infrastructure, not to mention its electronic networks. The European Tertiary Education Register identifies 2,500 institutions across 32 countries. The United States' (US) National Center for Education Statistics reports 4,313 colleges and universities. China has 2,700 institutions with over 40 million students, India about 50,000, mostly small colleges. Expenditure on higher education is 1–2 per cent of gross domestic product (GDP) in Organisation for Economic Co-operation and Development (OECD) countries: in 2018 it was 2.5 per cent in the US. One per cent of world GDP was $1,129 billion in purchasing power parity (PPP) in 2018 (OECD, 2021, p. 252; OECD, 2022; UNESCO, 2022a).

In 2020, 235.3 million students, 3 per cent of global population, were enrolled in what UNESCO (2022b) classifies as 'tertiary education'. Participation continued to grow during the COVID-19 pandemic. In 2020 the worldwide participation rate was 40.2 per cent of the school leaver age group. In 75 country systems, more than 50 per cent of young people entered tertiary education (World Bank, 2021). These can be called 'high participation systems' (Cantwell et al., 2018). Four people in every ten in 2020 compares with just over one person in ten in 1990. Half the students enrolled in 2020 will eventually graduate, taking their post-school qualifications, mostly degrees, into the labour markets, constituting 20 per cent of all workers. And it looks likely that the rate of participation will keep growing.

The expansion of higher education has disappointed the many who hoped it would be socially levelling. Growing education systems map onto existing hierarchies, in a world that remains unequal in socio-economic, ethnic-racial and gender terms (Marginson, 2016a). Higher education cannot transform inequalities that have their roots outside it. In 2020 participation was 79 per cent of the age cohort in high-income countries as classified by the World Bank (2021), but 38 per cent in middle-income countries and 9 per cent in low-income countries. It was 87 per cent in North America but 26 per cent in

South Asia and 9 per cent in sub-Saharan Africa. Further, in some countries the incidence and quality of higher education is very uneven. India has seen rapid growth in small, under-resourced private institutions. In 2020 and 2021 during the pandemic about 3.42 million students withdrew from the Brazilian private colleges, a dropout rate of 36.6 per cent (NewsBeezer, 2022).

The massification of tertiary education is driven above all by the desire of ever-more families and young people for betterment. All else being equal, educated citizens have more personal agency and enjoy greater social esteem. The other side of the coin is that educated societies impose growing disadvantages on those without higher education (Trow, 1973). High educational participation in capitalist societies cannot deliver to every graduate on its meritocratic promise (Sandel, 2020), but those left outside are firmly marginalised. The distinction between participation and non-participation fosters social segmentation. These more inclusive and unequal education systems mirror the structure of society as a whole.

PURPOSE OF THE BOOK

It is one thing to point to the material and human growth of higher education, another to say what this means. This book opens the question of the contributions of higher education to individuals and society and how those contributions are understood and, in some cases, measured. In doing so, we hope to address two starting concerns.

First, we perceive a significant gap between the *actual* contributions of higher education and widespread *understandings* of them. In many countries the actual contributions are underestimated, in range and depth, in government and public debate. This means not only that higher education institutions get insufficient credit for what they do and have counter-productive notions of narrow output imposed on them, their under-recognised contributions are not subject to full, conscious, reflexive accountability – either above to states, below to social communities or within the institutions themselves.

Second, as this suggests, a better and conscious understanding of the contributions of higher education is essential if they are to be improved. Because the actual contributions are underestimated, they are almost certainly under-financed and under-produced, and higher education institutions fail to fully mobilise the potential social agents that could join them in making those contributions. There is a second gap, between what higher education *could do* and what it *does do*. The social and economic costs of this gap are obvious. It is for this reason that we see it as essential to 'assess' the contributions of higher education. In *Assessing the contributions of higher education* we hope to stimulate more and better contributions. Higher education is a large constructive,

collaborative sector. It can mobilise an immense array of talent and energy. It can do much more for our disordered world.

Defining 'Contributions'

In this book we see 'effects', 'outcomes' and 'contributions' as overlapping terms. However, they emphasise different aspects. 'Outcomes' implies finitude, and something that can be observed and perhaps measured. 'Effects' invokes question about cause and effect. 'Contributions' suggests more a process than an end; or rather, it suggests ends that are ongoing, repeated or continuous. Contributions is the most generic of the three terms. Not all contributions can be observed, let alone measured. Not all follow cause-effect logics.

The *Cambridge Dictionary* (2022) defines a contribution as 'something that you contribute or do to help produce or achieve something together with other people, or to help make something successful'. This points both to the agentically driven aspect of higher education and the fact its activities are often *relational* ('together with other people'). We build on this. All contributions of higher education, whether individualised or collectivised, are generated in social settings and embedded in social relations, as Chapter 3 suggests.

When higher education's contributions are understood as necessarily social, the notion of contribution moves decisively beyond the idea of higher education as a solely private investment by one atomised person. This does not negate the effects of higher education for individuals, which can be extensive, as Chapters 4 and 9 discuss, but it suggests that individualised formation is always socially situated, whether inside education (intrinsic) or beyond (extrinsic). Other outcomes of higher education are primarily collectivised, emerging *only* through social relations: for example, the contribution to knowledge (an insight that remains solely with one individual is not knowledge); or to scientific literacy, which is about shared understanding; or to fostering social tolerance, which is practised relationally.

This move to the social-relational is not new. Many philosophies of education and pedagogy see teaching and learning as social (e.g. Dewey, 1916). As Dewey (1927) states, it is impossible to conceive 'individuals' without the society that sustains them, and impossible to conceive of a 'society' without the individuals that comprise it. Formal education not only involves individualised mental formation (only the student can do the actual learning), it also involves interactions between teacher and taught, and students with each other. These interactions are inherently relational and often central to student growth. Likewise, knowledge and scholarship are built in a continuous interaction between single minds and epistemic conversation. All discoveries are built on the past work of others; and while some novelties spring from group work

and others involve moments of solitary creation, all new knowledge must be codified if it is to enter the canon. Its communication is a social process.

The book opens but does not close the question of contributions. Its aim is more modest – to take the discussion forward, beyond the present limited thinking in policy and scholarly circles. We hope this is the first of several monographs focused on the contributions of higher education, and the related issue of higher education and 'public goods' and 'common goods', including works that examine the contributions of higher education in comparative and cross-cultural terms (for papers already published see Carpentier & Courtois, 2022; Marginson, 2016b; Marginson, 2018; Marginson & Yang, 2022).

The collaborative research project that underlies this book was explained in the Preface. In the remainder of this chapter we summarise the contents of the book. Chapter 2 will expand on how we understand and map the contributions of higher education.

THE CHAPTERS

The book advances our understanding of the contributions of higher education by illuminating those contributions through varying lenses and in different sectors of society.

The lenses used in *Assessing the contributions of higher education*, with varying disciplinary orthodoxy, include the non-economic social (Chapter 3), political economy (Chapter 9), political analysis/theory (Chapters 7, 10 and 11), educational philosophy and psychology (Chapter 4) and global studies (Chapters 5, 6 and 8, the last with scientometric analysis). Chapter 7 compares the outcomes of higher education through two contrasting national-cultural lenses. Sectors where the contributions are mapped include student learning (Chapter 4), cultural life and identity (Chapter 13), democracy and open societies (Chapters 6 and 10), the economy (Chapter 7), government (Chapter 12), the formation of social elites (Chapter 14), ecology (Chapter 5) and collaborative science (Chapter 8).[1]

Concepts and Perspectives

Chapter 2 by the book's editors, on 'Intrinsic and extrinsic outcomes of higher education', is concerned with concepts, meanings, tools and social science

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[1]   The chapters in this book vary in the treatment of 'science'. While in the anglophone systems the term is largely confined to the physical and biological sciences and the associate professional disciplines, in much of Europe 'science' freely embraces the social sciences and, at times, all academic endeavour.

approaches. It begins by distinguishing 'higher' and 'tertiary' education, and then reviews two attempts to grasp the contributions of higher education holistically: Walter McMahon's (2009) economically grounded accounting, and the narrative of institutional theory in sociology. While each theory is internally cogent and generates insights, they are non-comprehensive. They are mutually exclusive so that each obviates the insights of the other, and they also miss further contributions. We then spell out our own approach, drawing a fundamental distinction between the inner and outer outcomes of higher education, its *intrinsic* and *extrinsic* contributions. This distinction is key to unpacking the policy debates. The chapter goes on to develop further tools: the distinction between individualised and collective (shared relational) outcomes; geo-cognitive scale, especially the distinction between local/national contributions and global contributions; and different cultural and disciplinary lenses. The final section of the chapter identifies pathways for further research.

Chapter 3 by Anna Smolentseva, 'Contributions of higher education to society: Towards conceptualisation', focuses on the multiple non-economic contributions. It identifies two basic dimensions. The first, axiological dimension pertains to the objects of higher education: what higher education does, what is central to its activities. This includes three key elements: knowledge/skills (basic and applied knowledge, generic and particular skills), norms and values (social, cultural, professional, civic) and social value (social statuses). The second, praxeological dimension pertains to the internal dynamics of higher education: what higher education does with its objects, processes, practices, activities. This entails three elements: transmission, transformation and creation. By combining the two dimensions, axiological and praxeological, in a matrix, Smolentseva identifies nine key domains of the contributions of higher education. This covers the three components of higher education's role, often inadequately described as teaching, research and 'service', and attends to its internal dynamics. The framework both illuminates the intrinsic value of teaching/learning and research and also identifies the inherent transformative potentials of higher education for individuals and for societies. This framework can be applied to both the individualised and collective contributions, and in all the geo-cognitive scales.

In Chapter 4 on 'Higher education as student self-formation' Simon Marginson re-theorises the education function. He defines higher education as a process of reflexive self-formation of students. In higher education people work on themselves in relation to their personal development, goals and projects, primarily through immersion in knowledge. The essential elements of higher education as self-formation are the autonomy of the learner, reflexive agency, the will to learn and engagement in collective knowledge. Immersion in knowledge distinguishes self-formation in higher education from reflexive self-making in other domains. The chapter grounds this perspective in a review

of social theory on agency freedom, autonomy and reflexivity; psychological studies of autonomy, proactivity and reflexivity; Confucian self-cultivation, and the educational practices of *Bildung* and American pragmatism; and research on student development through immersion in knowledges.

Global Contributions and Comparisons

Part II focuses on higher education's contributions in the global scale. Here the impact in higher education of the 'disordered world' referenced in the subtitle is very apparent.

Johanna Witte's Chapter 5 on 'Higher education, science and the climate crisis' focuses on higher education amid this great existential challenge. Higher education and science have been central to the technological evolutions which led to the climate crisis and are now central to monitoring and solutions. The chapter maps the manifold current and potential contributions of higher education, including research, education, third mission roles and public debate. It considers institutions as consumers and campus infrastructure, and discusses individual and collective actors including institutional leaders, academics, students, self-governing bodies and governments. Witte frames the argument in terms of common goods and the social embeddedness of autonomous higher education and science.

Chapter 6 by Marijk van der Wende, on 'Opportunities and challenges for open higher education systems in global context', explores the potential for national politics to advance or retard the global contributions of the sector. Open systems allow institutions to directly contribute to global challenges, enlarge their potential human and financial resources, extend learning opportunities and spur excellence in teaching and research. However, open society values are under pressure in many quarters, problematised by weakened national steering capacity, nationalist-populist activism and national security concerns. 'How open can it be?', asks van der Wende, exploring the opportunities, challenges and consequences. While the EU is a strong proponent of openness, higher education is now operating amid a weakened multilateralism and changes in an increasingly unstable globalisation paradigm.

In Chapter 7, 'A comparison of Chinese and Anglo-American ideas about higher education and public good', Simon Marginson and Lili Yang start from the premise that productive international engagement in higher education rests on the capacity to understand the multiplicity of cultures and see the world through the eyes of the other. They compare Anglo-American and Chinese approaches to the outcomes of higher education, by focusing on 'public good' and 'public goods' and the nearest parallel concepts in China. The chapter reviews the respective practices in higher education of individualism and collectivism, university autonomy, higher education in civil society and

the global *tianxia*. The two traditions are not closely aligned. However, if the Anglo-American public/private dualism in economics, which occludes collective outcomes, is set aside, all ideas in both traditions can contribute to a combined understanding of higher education outcomes.

Chapter 8, by John Haupt and Jenny Lee, 'US–China collaboration in science for the global common good', focuses on the growth of partnerships between scientists in the two nations, fostered by both government programmes and bottom-up relations between scientists themselves. The paper measures US–China bilateral and multilateral collaborations between 2001 and 2020. US–China joint research outputs, which are mostly bilateral rather than multilateral, have come to dominate global science but are under growing pressure because of geopolitical tensions. Interestingly, in terms of finance and leadership the US has become more dependent on China than vice versa, though both lose from decoupling.

Contributions to Economy, Polity, Government and Culture

Part III of the book opens with James Robson's Chapter 9 on 'Graduate employability and employment'. Robson reviews the historical and theoretical underpinnings of current policy and scholarly debates on the relations between higher education and the world of work. Human capital theory has played a key part in shaping understandings. The chapter critiques this dominant narrative, and its conceptual assumptions, in the light of the outcomes revealed in empirical research. Robson argues for a reconceptualisation of higher education, beyond linear economic models, which takes into account social inequalities, actual labour market structures and the wide-ranging purposes of higher education and students.

Rita Locatelli's and Simon Marginson's Chapter 10 on 'UNESCO's common good idea of higher education and democracy' compares the extant Euro-American notions of 'public good' to UNESCO's recently developed concept of the 'common good'. The UNESCO concept takes the idea of the communicative and inclusive public further, focusing on desired social relations, in the form of participative and solidaristic communities. It takes in private as well as public actors. Applied to higher education the notion of common good can be a useful heuristic that counters the attenuated notion of society in the market model.

Brendan Cantwell, Daria Platonova and Isak Froumin's Chapter 11 focuses on 'Understanding the contributions of higher education through the politics of reform'. Their concern is with how politics shapes both the understanding and the practice of higher education's contributions. The chapter uses four case studies: the Bologna Processes in Europe; the student success movement in the US; Russia's global competitiveness policy; and world class university pro-

jects in China. These cases show that the political expectations associated with the contributions of higher education are not fixed but continually evolving.

Glen Jones's Chapter 12 on 'The professoriate and public policy' explores how academic faculty contribute to government, a large factor that is surprisingly neglected in research. Emphasising the sectoral nature of public policy, and the role of policy networks, the chapter discusses three types of interaction: the professoriate as advisors/consultants to government; as advisors/consultants to other policy networks; and as members of the attentive public. Jones discusses contributions and challenges in each role.

Chapter 13 by Jussi Välimaa, Terhi Nokkala and Ksenia Romanenko addresses 'Cultural contributions of higher education', also rarely explored in prior scholarship. The authors draw on both literature and empirical evidence, including an analysis of the web pages of higher education institutions, and a survey of cultural artefacts related to higher education. Higher education institutions extensively support cultural infrastructure such as libraries, museums and gardens, provide cultural activities in universities and communities, and also help to shape political culture and, at times, national identities. Higher education institutions also contribute to cultural industries including cinema, television and literature.

The final chapter, Chapter 14 by Aleksei Egorov and Sergey Malinovskiy on 'Higher education and regional elite formation in Russia', notes that in prior empirical research national elite formation has been explored much more than regional leadership, and the research on social leadership has mostly overlooked recent transformations in higher education, including massification and stratification of the sector. The authors use a database of 3,737 individual biographies of members of the regional elite to explore these issues.

Limitations

The chapter list is extensive but no means completes the inquiry. We might have expanded on the diffuse but crucial contributions of learning, scholarship and inquiry to the deeper reflexivities underlying societies, and global society, by fostering critical thinking, public reason and systematising desires for understanding and truth. More could be said about the engagement of institutions in civic life, the fostering of citizenship and innovation in industry (though each of these themes do arise in the chapters). More could have been said about student activism and education-based intellectuals in higher education institutions operating as 'public spheres' (Chapters 7 and 10). We scarcely exhaust the digital world, though it is a presence in most chapters. Many will want much more on decoloniality, anti-racism, gender, sexuality and ableness. We agree. We reference these dimensions but have not broken them open

for a fuller exploration of the upsides and downsides. However, we trust that future books by ourselves and others will explore all of these issues.

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PART I

Concepts and perspectives

2. Intrinsic and extrinsic outcomes of higher education

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INTRODUCTION: HIGHER EDUCATION

In this chapter we begin by defining 'higher education', in the light of UNESCO's categories of 'tertiary education' and note that higher education is organised in institutions and systems. We then review and critique two attempts to grasp the contributions of higher education holistically: Walter McMahon's economically grounded accounting, and institutional theory in sociology. Arguably, neither of these single discipline approaches, with their limiting assumptions and specific national-cultural character, can grasp the contributions of higher education on a comprehensive basis. This suggests the need to move towards multiple lenses, enabling a larger insight than any single lens can provide.

The next sections spell out our own approach. After notes on ontology, we distinguish between the intrinsic and extrinsic contributions of higher education and explore the difficulties inherent in mapping the extrinsic domain as cause/effect relations. We then discuss the differing insights opened by geo-cognitive scale, and recognition of collective as well as individualised outcomes. The conclusion draws out paths for further inquiry.

Higher and Tertiary Education

What is the relation between 'tertiary education' and 'higher education', the term most widely employed, and used in the title of this book? There is no standardised idea of 'higher education'. It can refer to the type of institution or to the type of educational programme. Efforts to universalise nomenclature have focused on 'tertiary', which generally refers to the type (especially the standard and duration) of the educational programme.

UNESCO (2022) and the OECD define 'tertiary education' using the International Standard Classification of Education (ISCED). 'Tertiary' covers

ISCED levels 5–8. These include short-cycle courses for the labour market in occupational knowledge, competencies and skill (level 5), first degree academic and/or professional programmes (level 6), more advanced Master's degrees (level 7) and academic or professional doctorates 'typically offered only by research-oriented tertiary educational institutions such as universities' (level 8).

In some countries 'higher education' can include all four levels of 'tertiary education'. In some other countries 'higher education' includes only level 6–8 programmes. In some countries it is defined not by educational programme but by institution, and confined to those that grant degrees. In this book we simply equate 'higher education' with UNESCO-defined 'tertiary education'. Higher education in this sense is provided in a range of institutions, not just universities. We hold onto the term 'higher education', despite its questionable whiff of status, because it is the most widely used term for post-schooling.

Institutions

Higher education is largely located in site-based institutions though online education is growing. Once the size of today's secondary schools, institutions in North America, Australia and East Asia can have 30,000–100,000 students, in multiple locations. Institutions tend to be somewhat smaller in Northern Europe but certain recently merged universities in France are very large, one Southern European tradition provides open access, Latin American public universities can range over 500,000 and distance learning-based institutions in some countries number in the millions. In most countries, the leading institutions, in resources and prestige, are large comprehensive multidisciplinary universities or 'multiversities' (Kerr, 2001), though these are normally a minority of the higher education establishments.

The US has long harboured a range of different institutional types, from two-year colleges to four-year institutions and doctoral level providers. Most countries have at least some specialist institutions within their systems – typically in the arts, media training, applied research, possibly business or medicine – and industry-based specialisation was the norm in the Soviet model that shaped higher education in Russia, Eastern Europe, Central Asia and China. France, Germany, China and Russia locate much of their research-based science in laboratories separate from universities. In many European countries governments developed mass higher education in second sectors, separate from research universities. Despite this variety, over time the comprehensive research and teaching multiversity has become more dominant. One sign has been the folding of second sectors into the university sector in several countries, through mergers, for example in UK (United Kingdom), Australia, Ireland, Finland, Denmark and parts of Norway. China has also fostered

more comprehensive universities, though it manages a continuing division of labour between academic and vocational institutions. In many countries non-multiversities such as universities of applied science, liberal arts colleges and single discipline institutes survive, but with secondary influence. Some vocational training institutes occupy niche roles in industry, while others evolve towards the comprehensive multiversity form over time (Antonowicz et al., 2018).

The multiversity is key to the contributive capacity of higher education. Multiversities are like many-sided highly connective cities. They sustain active relations with almost every other social sector, via learning, research and service, and typically network freely across national borders. They also harbour complex inner societies with diverse roles and interests.

Elements in higher education that have become common worldwide include the degree programme with an ordered progression of contents, the curriculum, the examination, the degree ceremony, the classroom and science laboratory, and faculty organised on the basis of the teaching programme and/or the scholarly disciplines and fields of professional training. These are long-standing aspects of higher education. More recent innovations include the institutional executive, the governing body, internal budgetary systems, and the expansion and professionalisation of administration and services. These innovations reflect three drivers: organisational needs called up by growth; the scale of public funding of higher education; and the worldwide radiation of templates common to all public and private organisations such as transparency and external accountability, customer relations, product formats, human resource management and meritocratic competition (Drori et al., 2006).

One other defining feature should be mentioned. Higher education institutions, especially research-intensive universities, have long coupled locality/fixidity with universality/mobility. Apart from wholly online organisations, which are marginal to the sector, institutions have identifiable place-based contexts and identities, anchoring much of their activity to location (Owen-Smith, 2018). Most of them draw their students from a specific catchment. Almost all are legally constituted by government, most are funded or subsidised by government, and they reproduce social status largely in the scales of nation and city. Yet the central importance of knowledge in higher education fosters continuing imaginings of universality, and institutions are often active beyond national borders. Higher education is more internationalised and globalised than are most social sectors. From 1998 to 2019 international student mobility grew by over 7 per cent a year (OECD, 2021). The pool of global science and its underlying networks overshadow the separated national research systems (Wagner et al., 2015). The growth of higher education fosters in societies a greater degree of international and global awareness and facilitates all international activity.

Why are higher education institutions as they are? One line of evolution was from the incorporated medieval European universities, semi-autonomous of church and state, to the early nineteenth-century teaching/research university in Germany, and its transposition to the US, beginning with Johns Hopkins in 1876. From there the Euro-American teaching and research model radiated to worldwide higher education, spread by cross-border graduate training, the dominance of English language science (Marginson & Xu, forthcoming) and global rankings, which enforce an Anglo-American science university template.

Nevertheless, back stories grounded in medieval European walled cities or Germany's Wilhelm von Humboldt should not be overplayed. There are other long traditions of institutional higher learning. These include China, beginning in the Western Zhou dynasty (1046–771 BCE), where higher education in classical Sinic scholarship was used by successive dynasties to select candidates for the bureaucracy; India, where Buddhist monasteries such as Nalanda and Vikramashila were great centres of scholarship that drew students from all over East, Southeast and South Asia; and medieval Islam. The University of Al Quaraouiyine at Fez in Morocco and Al-Azhar University in Cairo in Egypt began as education-focused mosques in 859 CE and 970 CE respectively. Though today's disciplines and 'diplomas' are Euro-American, the mass examination and its use in civil service selection was imported from China to eighteenth-century Germany (Fukuyama, 2011, p. 310; Teng, 1943).

National Systems

We understand a 'system' simply as an ordered set of elements within a defined boundary. At system level, massified higher education began in the US prior to World War II and reached other Euro-American countries, and Japan, Russia and the anglophone settler states, in 1950–1990. The UK hosted only ten universities before 1900. Arguably, the key moment in the emergence of the UK system was not Bologna 1088 or Oxford 1096 but the Robbins report (1963). The worldwide policy norm of higher education as integral to nation-building was universalised much later, in a World Bank report (2000).

National systems vary in the manner in which institutions are wrapped into government policy, whether through top-down management or a mix of definitions, procedures and incentives. Modes of coordination vary, as do the respective roles of national/federal and state/provincial governments. In the US a civil organisation, the Carnegie Classification (2022), manages distinctions between types of institutions, while the federal government fosters a choice-based national market through student loans financing, and calibrates and stratifies the sector through the patten of research grants. Most governments use a variant of neo-liberal competition (Olssen & Peters, 2005)

for prestige, students and funding, especially in research. In the UK there is a freewheeling quasi-market among degree granting institutions. Public institutions share the same nominal teaching and research mission but there is a pronounced hierarchy in terms of resources and prestige.

In many countries leading research-intensive universities tend to have more practical autonomy than other institutions, though such institutions can be targeted by authoritarian governments. There are gaps within national systems, where the architecture is incomplete, such as separated private and public sectors, elite private institutions making their own rules and barriers to student mobility, not to mention the often steep walls between degree granting and non-degree institutions. There can be much variation at state level in the mix of institutional types and the resourcing applied, as in India and to some extent in Russia. Structural unevenness and flaws in systems tend to retard or reduce the potential contributions of higher education. Another set of structural factors retards free global and international relations, including barriers to inward people mobility, and national security blockages to international research collaboration, as is discussed in Chapters 6 and 8.

DIFFERING TAKES ON THE CONTRIBUTIONS

We now examine two attempts to theorise the contributions of higher education in a comprehensive manner. In the first approach Walter McMahon stretches economic theory and methods broadly across the 'public' and 'private' outcomes. The second approach is the social and global role of higher education identified in institutional theory by John Meyer and collaborators, who replace McMahon's economic causation with sociological causation.

McMahon's 'Total Return to Higher Education'

'The total return to higher education' (McMahon, 2018), updating an earlier book-length study (McMahon, 2009), develops a 'theory of endogenous development'. He identifies a large number of objects associated with higher education and uses an economic method to combine them into a unitary value. 'The total return to higher education is the rate of return based on earnings plus non-monetary private and social benefits beyond earnings that captures higher education's contribution to development' (McMahon, 2018, p. 90).

The basis of McMahon's model is human capital, the narrative of graduate attributes as modelled by economics. McMahon defines individual human capital as family transmitted human capital, plus individual ability, plus effort, plus quality of education multiplied by its duration. Through this mechanism higher education contributes to social and economic 'development'. The 'social benefits' of higher education 'are usually but not entirely the result

of time spent in the community using the human capital produced by higher education' (McMahon, 2018, p. 99). He repeatedly stresses that the essential production of higher education consists in 'human capital skills', that are 'embodied in graduates that have important outcomes' (p. 91). Human capital skills, not human beings more broadly understood or knowledge, are the foundation of higher education's contributions. Higher education institutions produce human capital, rather than producing students (p. 93), or helping students to produce themselves, the theory of learning outlined in Chapter 4.

McMahon states that individual human capital is put to use in economic production (productivity per hour worked), innovation (improving the technology stock), household production (living a healthy life, educating children) and the social externalities of individual civic behaviour (voting, volunteering). However, what happens inside education is a black box – the how of learning is unspecified – and all value is ultimately economic value.

Despite these limitations, McMahon's schema sits at the expansive end of economic theorisation. The word 'development' is significant. He finds that individual human capital generates both direct and indirect outcomes, including non-market outcomes. The direct and indirect effects interact and 'build up to be eventually much larger than the original impact' (McMahon, 2018, p. 104). The 'indirect effects' include the effect of one person's higher education on the earnings of others, and flow-on effects of technological discoveries and applications (pp. 104–105). Unlike investment in physical capital, investment in human capital does not lose value as it grows (though McMahon is unable to include innovations in his calculation of human capital outcomes, p. 101). Further, as McMahon sees it there is no necessity for diminishing returns. Higher education contributions have an infinite time horizon. Additional participants and more public investment do not dilute the benefits.

McMahon identifies and quantifies contributions by human capital in a large number of social domains. He sees the non-market contributions of higher education as roughly equal to the market-based contributions. The non-market outcomes are of two types: (a) private benefits to the graduate and his/her family (such as better graduate and family health and better management of household wealth), and (b) social benefits beyond the family and its future generations, which McMahon (2018) considers 'externalities' (p. 99). Externalities are spillovers from the process of individualised value creation. He defines collective-social benefits in Samuelson (1954) fashion as not-private benefits that market production cannot guarantee. Externalities not generated by market production must be subsidised. McMahon (2018) emphasises the potential returns from government funding of higher education. 'Private incentives for investing in outcomes that benefit others are insufficient' (p. 92). As with the non-market private benefits, under-information leads to under-investment (pp. 108–109). 'If external social benefits are not

measured and clearly understood, then this public support is not forthcoming' (p. 102). But when there is enough government funding, higher education drives continuous economic and social innovation and development.

Interestingly, social equity is excluded from McMahon's (2018) framework 'because it is not part of the criteria for economic efficiency which is the focus' (p. 92). Other economists attend to social equity/inequity as an outcome of higher education, but the question is separate from McMahon's focus on growth: all of his non-monetary effects are seen as contributions to 'final growth or development outcomes' (p. 104). What is interesting here, though, is that McMahon does fleetingly acknowledge the potential for contributions of higher education, such as equity, that are seen to fall outside the economic framework.

How can the non-monetary contributions be measured? McMahon (2018) uses prior studies of the outcomes of investment in human capital as 'a data base from which the best that can be known about each outcome is extracted'. Only articles 'that meet the scientific standard for the inference of causation are used' (p. 91). McMahon also confines himself to studies where the individualised non-monetary outcomes have been adequately separated from the private earnings benefits, to avoid double counting. The total social return to higher education is the aggregation of returns across separated social sectors. The 'social benefits' include higher taxes paid by graduates, charitable giving and time given by graduates to public and community bodies. Some such activity leads to public goods open to all, such as contributions to democratic institutions and political stability, reduced crime and better public health outcomes. However, a difficulty is that public goods are 'very hard to measure with micro data' and community aggregated data must be used (p. 99).

The studies of higher education outcomes drawn on by McMahon (2018) are mostly North American based and, as such, culturally specific. For example, his conclusion about 'the contribution of higher education to democratisation' based on Euro-American political freedoms (p. 102) may not hold in countries with high educational participation whose governments are not contestable. A measure that maps higher education to a larger measure of grass-roots agentic capabilities might generate more universal findings.

In stretching economics into total social accounting McMahon acknowledges a larger set of contributions by higher education than do many economists. Yet the model's broad reach has a narrow base. Because the foundational element is human capital, the graduate as an economic actor not a whole person in society, the value and contributions of higher education are defined in terms of economic efficiency, expressed in real or shadow prices: money value. Here the method is again culturally specific, in its normalisation of the capitalist economy. A further limitation is methodological individualism. McMahon uses individualised data on graduates and their activities to

infer collective relational benefits. Lukes (1973) defines methodological individualism as 'a doctrine about explanation which asserts that all attempts to explain social (or individual) phenomena are to be rejected … unless they are couched wholly in terms of facts about individuals' (p. 110). Yet, arguably, in the contributions of higher education, the whole is distinct from the sum of the parts. The collective contributions are more than the aggregated sum of individual contributions: they are also produced in relations between individuals, institutions and social structures.

There are doubts about the validity of McMahon's (2018) homogenisation of variant outputs and measures through 're-scaling' (p. 99). The 'inference of causation' is also questionable. First, there is a causal chain from education to human capital to economic and social growth and development, but no explanation of any of the causation, especially the first stage. Second, higher education is not wholly independent of the spheres in which its contributions are co-produced, such as the workplace or civic political life, making it difficult to establish unique causation (see the discussion of the 'independence' problem below). In attempting to provide a single model for higher education's contributions, McMahon assumes all outcomes spring from individualised learning but leaves the social and cognitive processes of learning as empty categories, fundamental but unexamined.

Institutional Theory: Higher Education as the Shaper of Society?

Institutional theorists make a different claim. They argue that 'viewing higher education as an institution helps explain many of its characteristics and its effects in modern society' (Meyer et al., 2007, p. 187). However, this is not a bottom-up reading of the role of institutions. Local institutions are shaped generically by 'wider environmental meanings, definitions, rules and models' (p. 188). New universities follow standard blueprints. At the same time, these blueprints – higher education, its credentialling, and the sensibilities of graduates – are foundational to modern society (Baker, 2014; Meyer et al., 2007, p. 208).

Institutionalists focus on organisations as the key social actors, not choice making rational individuals or global competition states. They emphasise the worldwide homogenisation of organisational forms in higher education. 'Education systems are remarkably similar around the world, and increasingly so over time' (Meyer et al., 2007, p. 193). They argue that while allocating individuals within the role structure of society, and reproducing the professions and their skill-base, the Euro-American university fosters universal cultural knowledge. It installs norms of science and discovery, progress and development, equality, merit, individual self-fulfilment and human rights, 'themes so prevalent in higher education' (p. 188) that uphold its social role.

It also installs liberal Euro-American values like environmentalism (p. 191), feminism and anti-racism, and contributes to the reflexive rationalisation and transformation of state and economy.

These functions slip across borders in a process of global isomorphism (pp. 188–189; Schofer & Meyer, 2005). Higher education spreads shared cultural frameworks and 'global scripts' across the world (Schofer & Meyer, 2005; Schofer et al., 2021). The 'myth of the "knowledge society"' derives from this radiation of ideas and cultural authority rather than the workings of a 'mundane social order' (Meyer et al., 2007, p. 204). Meyer and colleagues attribute most facets of what they see as modern 'world society' onto higher education:

> Higher education, we argue, constructs core features of the contemporary rational-ized and globalized world, providing a foundational for global integration and the modern service economy. Higher education changes national and global societies by expanding the professions, rationalizing common (increasingly global) frames, connecting local societies to world society, and ultimately propelling new societal movements. (Schofer et al., 2021, p. 14)

For institutionalists higher education's economic role is seen to lie in the larger cultural shaping of work, occupations, credentials and values, and in the allocation of social status, rather than in specific vocational training. They see economic processes as subordinate and dependent upon cultural processes, and higher education as a crucial institution in national and global cultural formation. If the main role of the university was specific training, state Meyer et al. (2007), it would be elbowed aside by more focused and efficient organisations (p. 203). Hence the role of general degrees. Their lack of specificity is key. 'The decoupling of concrete skills and individual capacities from the system that provides abstract certification maintains the university's collective cultural authority and capacity' (p. 208). Institutionalists problematise human capital theory's claims about the economic effects of higher education (Meyer et al., 2007; Schofer & Meyer, 2005), including the productivity effects (Meyer et al., 2007, p. 206).

An historical analysis by Schofer and Meyer (2005) finds that since World War II there is no discernible statistical relation between on one hand the expansion of higher education, and on the other the growth of economies, changes in the industry mix and patterns of demand for educated labour. A later paper (Schofer et al., 2021) softens this critique, finding that 'tertiary enrolment has a modest but positive association with the size of the economy, consistent with conventional wisdom that higher education boosts growth' (p. 13). However, the paper protects the earlier argument about an abstract cultural relation to the economy. The growth of education has led to 'a broader

reconception of economic value around rationalized and professionalized activity' (p. 14).

What does institutional theory tell us about the contributions of higher education? Worldwide institutional isomorphism helps to explain the many similarities in higher education across disparate contexts. The points about the credentialling and sorting functions of higher education, and the mutual growth of higher education and professions, confirm earlier sociological insights (e.g. Collins, 1971). Institutionalists identify the knowledge-oriented and communicative university as an engine of global cultural convergence. Given the role played by higher education in producing and disseminating authoritative knowledge, some of which seeps into the public space, and the centrality of university users in the Internet's evolution since 1990, it is hard to disagree.

Arguably, however, these insights are elevated into a general theory which exaggerates the separated power of higher education, while ignoring those contributions of higher education that fall outside the theory. For example, there is more vocationally specific training in universities than institutional theory acknowledges. Engineering, medicine, teaching and computing, to name only some, are all prominent fields of study. The institutionalist narrative often lacks solidity in relation to causal machinery and empirical evidence. Cultural diffusion is assumed to occur through institutions, universities primary among them, but *how* it happens is left largely unexplained. More fundamentally, institutionalism does not provide a conceptual model or theorisation which supports the alleged causal relations between higher education and society. Its use of panel data analyses with trends and correlations of large aggregates are unconvincing. Though presented as hypothesis testing, this method simply deploys quantities to illustrate assumptions. For example, growth in the number of professional organisations is a proxy for professionalisation (Schofer et al., 2021). Growth in the number of international scientific organisations is a proxy for global determination by science (Schofer & Meyer, 2005). This does not explain the social effects of higher education. Correlation does not prove causation. The causal claim rests on trust in the theory. You are charmed by it or not.

We argue below that not all aspects of the contributions of higher education can be tracked empirically. However, this does not negate the need to interrogate theory using empirical facts, and vice versa. Institutionalism provides a descriptive story that, while it assembles insights into the behaviour of organisations, ultimately relies on liberal values, narrative flow, affective power and common-sense plausibility to secure endorsement.

It is also an America-dominant story. This and its liberalism might explain the widespread take-up of institutional theory in academic circles, especially in the US. Yet the explanation does not cover all bases. In emphasising the

meso-level organisational scale, institutionalism tends to occlude both the national and individual scales and hence the agency of states and persons. The organisational scale does not fully encompass the role of higher education in nation-building strategies, which many scholars see as centrally important in driving the development of modern higher education systems (e.g. Ordorika, 2003), and it underplays the sector's contributions to individual agency. The contributions of higher education are practised in a multi-scalar setting in which all of the scales matter.

Institutionalism is also less than fully convincing when it leaps from the meso scale to the global. In its picture of a world compellingly transformed by blueprints, models, norms and scripts there is never an actor, a material interest or a relation of power in sight. Though we can see institutionalism's 'global scripts' in play, such as the Anglo-American norms of global university ranking, the larger idea of an existing 'world society' based in universal values lacks solidity. How can such a nebulous society exercise universal causal power? Further, there is no reason to assume individual or institutional agency must follow an American or Euro-American path, and plenty of evidence of other paths (e.g. in East Asia; see Marginson, 2011). As with human capital theory, the assumption that the default is always Euro-American – and hence that higher education is intrinsically 'Western' – is disquieting.

Arguably, worldwide tendencies in higher education, such as participation growth and the spread of science, are articulated through national-cultural and local contexts and shaped by embedded agents as well as by Euro-American or other imported norms. Local and national higher education are more agentic and variant than institutionalists can see. Institutionalism emerged in the 1990s when Euro-American global integration and convergence was at its historical highpoint. Given the geopolitical tendencies to multi-polarity in political economy and culture, and the dispersal of capacity in higher education (Macaes, 2018; Marginson & Xu, forthcoming; Pieterse, 2018), this era is now receding.

Less Definitive and More Comprehensive

McMahon and the institutionalists each contain significant insights into the contributions of higher education – especially McMahon, who is both broadly inclusive and drills down – but the economic and institutionalist insights exclude each other. Yet it should be possible to learn from both. Further, because they occlude contributions that do not readily fit their frameworks, there are aspects that both miss completely, such as the potentials of joint rather than individual public or common goods. Further, in their effort to present a holistic explanation with robust certainty both McMahon and the institutionalists skip over problems of causality. In short, while both McMahon

and institutional theory present universal explanations for higher education, and both are coherent within their framework, they are non-comprehensive in coverage and more so in explanation. Both approaches to the contributions of higher education imply a trade-off between the internal cogency of the schema and the breadth of its coverage of reality, between epistemology and ontology.

An alternative approach is to play the trade-off the other way – to attempt a more comprehensive coverage of the contributions of higher education, while acknowledging the gaps in both coverage and explanation. This generates a result less apparently complete but closer to the real world. This approach is taken in *Things we know and don't know about the wider benefits of higher education: A review of the recent literature*, a paper for the UK Department for Business and Skills (Brennan et al., 2013). The authors draw on more than one discipline and do not create one analytical framework. They acknowledge heterogeneity and gaps. Arguably, however, they identify a larger number of contributions of higher education, though they cannot satisfactorily resolve all of those that they identify.

Brennan and colleagues draw on existing studies to cite correlations between higher education and the propensity to vote in elections, civic engagement including volunteerism, political participation, trust and tolerance of the social 'other' such as immigrants, lower crime rates and better health (Brennan et al., 2013, pp. 8–14). This territory is also covered by McMahon, but Brennan and colleagues also note the absence of conclusive evidence of causation. They note 'the question of whether the higher education experience is itself the determinant of voting propensity or whether both the higher education experience and voting behaviour are influenced more by antecedent variables such as social and educational background' (p. 9). They are also unsure of how much, and how, the impact of higher education translates from individuals to the collective level (p. 11).

The researchers develop a 'taxonomy of the wider benefits of higher education' (Brennan et al., 2013, p. 22), a matrix with two axes: society/individual and market/non-market. As with McMahon, this acknowledges non-market outcomes, though Brennan and colleagues are not impelled to use economic values to define them. The distinction between social/collective and individual outcomes is helpful. Non-market social benefits include cohesion, higher tolerance, lower propensity to commit crime, political stability, social mobility and social capital.

A PREFERRED APPROACH

We will now outline our own thinking about the contributions of higher education. This rests on assumptions in four areas. First, ontology, our understanding of the nature of being. This section may be abstruse to some readers (those not

interested in philosophy can skip it) but it determines what follows. Second, all contributions of higher education are socially embedded. However, there is a crucial distinction between activities internal to higher education that it carries out in its own right, its *intrinsic* contributions via student learning and knowledge, and its *extrinsic* contributions produced in conjunction with other social sectors, such as employers. Higher education is extrinsically connected to most parts of society and here it is difficult or impossible to isolate its discrete causal effects, the 'independence' problem. Third, it is useful to understand the contributions of higher education as both individualised and collective, and occurring in multiple geo-cognitive scales. Fourth, there are multiple ways of seeing and practising the contributions of higher education, including multiple national-cultural lenses, and multiple disciplinary lenses.

Ontology

As Chapter 1 notes, in the face of the multiplicity and complexity of what higher education does, there are widespread desires to simplify. The widespread take-up of global university rankings, which provide an impoverished (if not highly distorted) picture of what higher education does, suggest this. We believe that it is essential to move in exactly the opposite direction – to greater depth and complexity. No one answer or method can cover this whole terrain. There is no magic key. We need frameworks that enable more, not less, inclusion and diversity (Cantwell, 2020; Marginson, 2022b; Smolentseva in Chapter 3 of this volume). This reflects the reality. Like all social activities, higher education is more complex than any body of knowledge that is applied to understand it. This does not mean anything goes, that any explanation will serve. While there are useful insights in many theories and empirical methods, some ideas and some measures provide a richer understanding than do others.

One of the challenges for research on higher education is that the target does not stand still. The world is neither inherently ordered, patterned nor wholly predictable. The patterns sought by social science depend on conditions of closure that can only be temporary: no closure is complete or final. Critical realism (e.g. Sayer, 2000) and social realism (e.g. Archer, 1995) describe a world in flux that is constantly changing, not existing but *emergent*. This means also that the range of possibilities in higher education is larger than what we can verify empirically. At any time, both the actual and the possible are part of the real.

What then can we know and how do we know it? Sayer (2000) distinguishes between reality, including deep social relations, and those aspects of reality that are empirically verifiable. 'Observability may make us more confident about what we think exists, but existence itself is not dependent on it' (p. 12). For example, we can see a university, but we cannot see social class, though

we can track some of its manifestations. The limits on observability lead to two kinds of intellectual move. First the use of proxies (e.g. citations as 'measures' of the contribution of new knowledge), though proxies can generate more problems than they solve. Second, theorisation. Theory helps to join the dots between what we can observe, and in doing so can transform our understanding of what we see empirically, providing that our theories are continually tested against the reality they try to explain.

Critical realism and social realism also illuminate relations between pre-given social structure (class, status, racist hierarchy, resource distributions, etc.) and human or institutional agency. Archer (1995) argues that neither structure nor agency are wholly determined by the other. They are not identical. Nor is their relation one of 'balance' or symmetry. Rather, structure and agency are *heterogeneous* aspects of reality. Social structures are prior to human agents and shape what people in higher education can achieve. Yet human agents also change social structures, with difficulty; and in any case, the potentials of agency are always partly independent of structures. Human agents carry with them inner tools – self-consciousness and the capacity for reflexivity and will-based action – that enable them to reflect on social structures, and to reflect on and transform themselves, thereby changing their relation to structure. This changes what they can achieve, what is possible (Archer, 2000, pp. 9–10). Archer emphasises the irreducible autonomy of agency. 'People are not puppets of structures because they have their own emergent properties' (Archer, 1995, pp. 71–72). Agentic actions seem more fluent when congruent with the existing conditions, including pre-given institutions and habits, but there is always scope for imagination, innovation and contingency (Fonseca, 2016, p. 28).

For example, in relation to the contributions of higher education, no one in the year 1990 predicted three decades of massive expansion in the level of tertiary participation, or anticipated the amazing growth of scientific output in China and East Asia, or the flourishing of Internet-based networks, or global university rankings with their transformative effects. No one predicted path-breaking strategies like the building of the global educational hub that put Singapore on the map in education and research. None of these developments were linear evolutions from what had gone before. All of these breaks with the pattern were driven by novel actions by national, institutional and individual human agents.

Multiple lenses, multiple insights
The points about agency, openness and multiplicity highlight the value of diverse perceptions of the contributions of higher education. This book works with both diverse disciplinary lenses, as was discussed in Chapter 1, and diverse national-cultural lenses.

Many disciplinary lenses can be used to view higher education's contributions: economics and political economy, sociology, social theory, cultural studies, psychology, ecology, political science, history and hybrid combinations. Arguably, all of the resulting insights matter. Neoclassical economics, normatively centred on markets, focuses on learning and certification as individualised 'private goods', and on innovation spillovers from basic research. Political economy sustains a larger space for social values, non-market outcomes and collective benefits (e.g. Brown et al., 2020) though it is marginal to policy in most countries. Sociology tackles the contributions of higher education in terms of classical disciplinary tropes such as social allocation and status, and the socialisation of graduates (see Chapter 3). For psychology the lodestones are academic learning and personal equilibrium. Many practitioners of each discipline regard its findings concerning the contributions of higher education as necessary and sufficient. They are wrong on the second point. Each discipline tells us something that the other disciplines cannot. There is nothing to be gained from a war between differing universal claims grounded in single disciplines.

Likewise, different national-cultures are associated with varied insights. None have all the answers. Though higher education exhibits similarities across countries, sufficient for *Assessing the contributions of higher education* to conceive it as a worldwide sector, and despite global homogenisation, as noted there is much scope for national and local nuancing. Global effects are not uniform and should not be overstated, and they are also subject to culturally mediated differences in perception, values and practices. Countries vary in notions of individual–collective–society relations, the role of markets, the expected norms of social conduct, and approaches to social difference and cross-border mobility. Consider the egalitarian Nordic welfare democracies, the hyper-market and vibrant civil society in the US, Singapore's managed global society-economy and China's party-state order. These variations especially affect the socially sensitive extrinsic contributions.

Chapter 7 explores in more detail differences between Chinese and Anglo-American understandings of the outcomes of higher education. These go to the bedrock of language and social relations. Lexical differences connect to a differing family/state/society/education assemblage and imagining of social space. For example, there is no equivalent in English of the Chinese concept of *tianxia* ('all under heaven') which conceives a relational order beyond the nation state, making it easier to imagine the global in higher education.

Intrinsic and Extrinsic Contributions

This ontology opens us to a fuller range of emergent possibilities in higher education. However, higher education is also path dependent, structured by what happened before. It is not continuously being wholly reinvented. It is a more complex mix of inherited forms and activities and new possibilities. Agents in higher education make their own futures under conditions inherited from the past that they do not control. Further, as a social sector higher education is both autonomous, with its own trajectory, and *also* implicated with other social sectors. Its autonomy is nested in a wider set of social relations and never absolute. How then can we make sense of this mix of inner freedoms and the various determinations?

In assessing the contributions of higher education, it is crucial to distinguish between the *intrinsic* contributions of higher education, which are manifest in the core education function of higher education and the central role of knowledge, and the *extrinsic* contributions which higher education produces jointly with agents in other social sectors.

Higher education makes two core or primary contributions that are produced without necessarily being articulated through other social sectors. These contributions absorb most of the time and other resources expended by institutions. They are (1) *education*, and (2) *research and scholarship*. More precisely, the intrinsic contributions are teaching/learning and graduate certification of students via immersion of those students in knowledge; and the production, preservation, transmission and communication of knowledge. The intrinsic activities of learning and research intersect, through the role of knowledge in learning. They also can be distinguished as processes and thereby observed and measured in various ways.

Higher education, especially comprehensive research-intensive multiversities, has a large measure of autonomous control over the intrinsic contributions, though these are also custom-bound, shaped by inherited practices. The intrinsic activities are also foundational to most of the extrinsic contributions of higher education. Here, however, the partner social sectors exercise an important shaping influence, alongside agents in higher education.

In conventional descriptions higher education is often described as having three missions: teaching, research and 'service'. The last, sometimes defined as the 'third mission' or 'engagement', is an attenuated version of the extrinsic contributions. However, the conventional description does not distinguish clearly between the core activities of teaching and research and the social uses to which they are put. For example, the human capital narrative combines both student learning (though this receives little attention in the theory) and the application of graduate skills and knowledge in the workplace. We see it as crucial to distinguish between the intrinsic learning process, where accounta-

bility lies wholly with higher education institutions and their students, and the extrinsic roles of graduates where responsibilities are shared, for example in relation to employability. This approach in turn allows us to identify a much larger set of extrinsic contributions. This includes all of the outcomes of higher education that are co-produced by (a) higher education institutions, (b) other social sectors and organisations and (c) students and graduates themselves.

Teaching and learning

Education is the main mission of higher education, one shared by all institutions in the sector. If higher education is defined to include all tertiary education, it covers the vast majority of post-school education despite occasional attempts by other organisations to enter the field. The education function typically includes the *credentialling* of graduates, in institutions given legal and governmental recognition to carry this out. This recognition cements the contribution of the education function not just to students but to society.

The education function of higher education institutions can be crudely measured by the number of enrolled students and the number who complete. It can also be measured by the knowledge and skills students acquire, though it is difficult to separate classroom learning from other inputs. It can be observed by sitting in classrooms and monitoring students' work. The larger process of reflexive self-formation via immersion in knowledge (see Chapter 4) can be tracked by using ethnographic methods in longitudinal studies.

Knowledge-related contributions

In many institutions emerging knowledge is fed into teaching, but new research is primarily generated in those universities and specialist research institutes with the largest resources and prestige. Most higher education institutions conduct little funded investigation. Unlike certified tertiary learning, research is not a near-monopoly of higher education. Many institutions other than universities also carry out research. Nevertheless, higher education has a distinctive mission within the larger set of research and development (R&D) activity.

There are two broad categories of R&D: (1) basic science and scholarship, which is largely located in universities and research institutes; and (2) commercial and commercialisable research and innovation, in all of universities, government laboratories or private industry. The great majority of published papers involve university authors (Powell et al., 2017), while the great majority of commercial R&D is located outside universities, largely in industry. In the US only 12 per cent of measured R&D is located in higher education (OECD, 2022). There are many points of junction between the two. Commercial research can energise basic science and vice versa, and some research is ambiguous across the category divide. Nevertheless, there are

contrasting drivers at work, and differing kinds of measures are customarily used. Basic science is understood in terms of use value in the Marxian sense. It is measured in terms of real objects, artifices of research and scholarly labour, including the published science papers and proceedings that are included in bibliometric collections (Elsevier, 2022; WoS, 2022). It is judged primarily in terms of scientific impact as measured by citation counts (Marginson, 2022a). Commercial R&D is understood in terms of Marxian exchange value; that is, money value as in GDP style accounting records of business activity, though measures of legal patents are also used. The use value and exchange value measures lead to radically different ideas about value created in and through higher education.

Research is discussed in most chapters of this book. It underpins much of the outreach of institutions and is the most quintessentially global aspect of what they do (Marginson, 2022b), though much of the world's knowledge falls outside the global bibliometric system, including all indigenous knowledge (Connell, 2014; Marginson & Xu, forthcoming). Funded research is the most prestigious of the intrinsic activities of higher education, and research performance calibrates the academic profession and shapes national and global university hierarchies. Nevertheless, the education function bulks larger in the tally of contributions.

Both teaching/learning and research typically entail immersion in knowledge, and original scholarly work feeds freely into both domains. One key contribution of higher education is that it continually reproduces and develops codified knowledge in disciplines. Some disciplines are primarily global in epistemic form (e.g. theoretical physics), in that scholars everywhere address similar problems in often similar ways. Others are common to some but not all countries (e.g. engineering). A third group of disciplines evolve in primarily national conversations paralleled across the world (e.g. much of social sciences, law, public health). The remainder are specific to particular countries or languages (e.g. history). This is a primary source of national-cultural variations in the contributions of higher education.

Extrinsic contributions: the problem of independence
The extrinsic contributions of higher education are vast and varied. They occupy much of the discussion in this book. As noted, they include the effects of higher education in constituting employable graduates, whose 'human capital' (market forces willing) augments economic productivity and prosperity. They also include the allocation of social status and mobility to graduates; the formation of graduates as collectively responsible and politically engaged citizens; the contribution of the sector to individual and public health; its effects in encouraging social tolerance, and international engagement and awareness; its fostering of social and scientific literacy; its many effects in

the cultural life of cities, nations and global publics; and the contribution of knowledge and learned intellectual sensibilities to economic innovation and, more generally, to critical thought, social reflexivity and transformation.

One of the primary extrinsic roles of higher education is its provision of a framework of social opportunity. Depending on how each of society and higher education are configured, and how they mesh, this can loosen up prior social inequalities or merely reproduce them. The allocation of graduates to income earning work and social status is shaped by a mix of social background effects, schooling structures, social and cultural capital in graduate labour markets, the structures and actions of higher education institutions and students' own learning. Social equity in access to higher education, and graduate outcomes, is often seen as primarily determined by higher education institutions. But this is a shared responsibility.

As noted, the extrinsic contributions of higher education pose special difficulties for research. It is hard to define, observe and measure the contributions specific to higher education because these are not readily distinguished from the contributions of families, workplaces, industry, the professions, the cultural sectors, government and communities. Not only is it difficult to empirically separate out higher education's causal effects, the effort is often meaningless. Higher education is not necessarily a separable causal factor. Claims that other factors have been statistically controlled belie the fact that causality is joint. Given this, findings of the 'casual effects' of higher education are merely assumption driven. When graduates from wealthy backgrounds earn more than average at work, to what extent is this caused by higher education, rather than the family? Is it useful to compare the 'employability' of graduates from different backgrounds, and compare the graduate outcomes of institutions, without grappling with this problem on a case by case basis? This point is fundamental to current debates about the contributions of higher education.

Research can gather evidence and theorise to explain why or how higher education is related to social outcomes. The accumulation of scholarship can enhance confidence in explanations and refine understanding of processes, including in their variation and emergent change. But such explanations need not isolate the discrete and independent cause of higher education as a regularity that transcends time and space (Cantwell, 2020).

The independence issue is key for both social science and policy because attempts to regulate the contributions of higher education primarily fall on the extrinsic contributions, especially those related to work and social mobility. There is much at stake here. If higher education is conceived as a socially independent institution, or system of institutions, then it can be readily assumed that changes in higher education policy and practice alone can achieve better outcomes. This is exactly how policy makers and public media often imagine the contributions problem. But assumptions about the independent casual

weight of the sector and linear relations between higher education and the economy or society lead to an exaggeration of what higher education alone can achieve. Policies that ought to focus on the take-up of graduates at work become solely focused on education, not work.

However, if higher education is seen as non-independent in its extrinsic contributions, as in this book, it is understood that changes in higher education *alone* cannot drive better social outcomes. The focus shifts on one hand to improving education and knowledge, the basis of all of higher education's contributions, and on the other to strengthening its relations with other social sectors. Rather than seeing higher education as the producer of graduates who should slot into work 'factory ready', the emphasis falls on policies for higher education *and* the workplace, and on facilitating the transition between the two domains.

Table 2.1 *Examples of individualised and collective contributions of higher education*

Contributions	Intrinsic to higher education	Extrinsic to higher education
Individualised	For example, self-formation of students through immersion in knowledge, in socially relational classrooms	For example, the successful realisation of graduates as employable human capital in the workplace
	For example, credentialling of individual engineering graduates as fit to practice the profession	For example, graduates are formed as active citizens and responsible members of a national polity
Collectivised	For example, production and dissemination via publications of explicit knowledge about engineering problems	For example, study abroad by a student cohort enhances their tolerance of cultural difference after they return home

Note: These are *examples* rather than an exhaustive list of the contributions of higher education (see also Figure 2.1).
Source: Authors.

Individualised and Collective, National and Global

This account of the intrinsic and extrinsic contributions of higher education is not new. Both Confucian education and the *Bildung* tradition in Germany (Siljander et al., 2012; Yang, 2022) have long seen the education of persons as a process of individual and self-formation, in intrinsic social settings, which also has extrinsic social meanings and effects.

Both traditions also identify collective as well as individualised outcomes (Table 2.1). Collective outcomes are a challenge for social science, but it is a problem that must be addressed. Major contributions of higher education

take this form – for example the production and communication of knowledge (knowledge formation combines individual and collective moments); the diffusion of knowledge through society, and the spread of new technologies through the economy; the effects of higher education in fostering scientific literacy, political competence, social order, tolerance and international understanding.

The OECD (e.g. OECD, 2015) identifies some of the social relational outcomes through the use of surveys that compare the attributes of higher educated people with others. However, not all collective outcomes can be reduced to or proxied by individualised qualities.
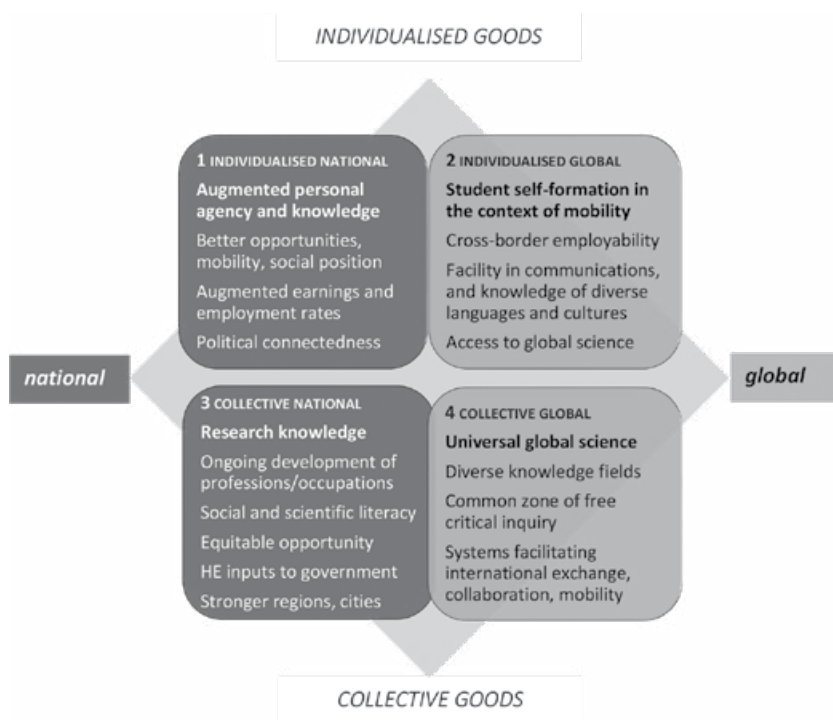
Scale in higher education

A further dimension is that of geo-cognitive scale. The contributions of higher education are developed and realised on a multi-scalar basis (Marginson & Rhoades, 2002). Higher education agents – both institutions and persons – can be active in several geo-cognitive scales simultaneously: global, pan-national regional as in the case of the EU, national, local region, local institution and local scholarly community. Part II of the book focuses on global contributions. Systems of higher education institutions are legally constituted, regulated and funded by nation states, but the inter-national and global dimensions are important; more so since the rise of communicative globalisation via the Internet and the burgeoning of global science. No one scale is necessarily dominant or determining in relation to other scales. The growing importance of the global scale has not led to the eclipse of the national.

What constitutes a scale in higher education as a distinctive domain? Geo-cognitive scale is both material and mental (Marginson, 2022b). The physical-material dimension includes ecology and the Internet. Scale also involves imagining, perspectives or lenses, and social practices. Different agentic lenses for perceiving the global scale – for example a cross-cultural educational approach versus a commercial approach to student mobility – can be associated with variations in the conduct of global relations in higher education.

Higher education and knowledge are amongst the most globalised of activities. Yet the multi-scalar nature of the contributions of higher education is not well understood because of the dominance in thought of 'methodological nationalism' (Shahjahan & Kezar, 2013; Wimmer & Schiller, 2002). Most social science has an 'internalist' bias (Conrad, 2016), in that nation states are seen to autonomously determine their own outcomes. Hence higher education is customarily seen as a by-product of the nation state and its policies, which leads to under-estimation of both its potential autonomy and its potential globality. McMahon (2018) is typical in that he measures the contributions of higher education using GDP, a nationally bound measure, without considering

contributions that lie beyond the nation state, including cross-border knowledge flows and student and faculty mobility.

Note: HE = higher education. Intrinsic contributions of higher education in **bold**, extrinsic contributions in plain type.
Source: First author.

Figure 2.1   *Examples of individualised and collective contributions of higher education*

A framework for listing contributions

Explicitly including the global scale broadens understanding of both the individualised and collective contributions of higher education (see Figure 2.1).

Arguably, the most important outcome in cell 1, the individualised contributions of higher education to students and graduates, is the intrinsic formation of students as self-determining agents steeped in knowledge (see Chapter 4). Individualised global goods (cell 2) are aspects of student formation associated with cross-border mobility. Prolonged mobility can quicken personal flexibility in the face of difference and change and heighten confidence, proactivity and reflexive self-determining agency (Marginson, 2014). In *Perspectives*

on global development 2017: International migration in a shifting world, the OECD compares migration among people with, and without, university degrees. For those without degrees the tendency to migrate is correlated to income: as income rises people are more likely to move. Among those with degrees, once a modest threshold is reached, mobility is income inelastic (OECD, 2016, p. 32). This suggests that in helping graduates to develop greater personal agency vis-à-vis mobility, higher education weakens the effects of economic determinism on their imaginings and choices about mobility. Mobility can also augment extrinsic skills, knowledge and earnings. Greater facility in languages and cultural diversity can be both intrinsically enriching and occupationally useful.

Among the collective national and local effects of higher education (cell 3) is the intrinsic contribution to knowledge creation, preservation, transmission and dissemination within the nation and its localities. The extrinsic contributions include the contributions of large comprehensive universities to building cities and regions, the work of academic faculty in government policy and regulation (see Chapter 12), and the provision of a structured set of opportunities to participate in higher education itself with effects in social allocation.

Most studies of the contributions of higher education are weaker on the collective outcomes than the individual outcomes and pay little attention to the global dimension. The conjunction between the two – the collective global contributions in cell 4 – is neglected. Yet in the production of global science, higher education constitutes not only knowledge but a vast zone of worldwide academic conversation. In sustaining a framework for global people mobility, networked higher education systems again produce global benefits.

TAKING THE INQUIRY FORWARD

In our ongoing inquiry into the contributions of higher education, the next steps are to establish a comprehensive framework for mapping those contributions; to apply this framework in comparisons within and between national systems; and to better ground our understanding of causality by investigating relations between higher education, states and the other social sectors engaged in co-production of the extrinsic contributions.

First, the objective is to get as close as possible to, as many as possible of, the real objects and social relations in higher education and in its extrinsic relations with society. It is more useful to use a comprehensive and heterogenous accounting of the contributions of higher education than to impose a single homogenising framework. Any singular framework must omit at least some real objects and relations. A heterogenous approach can take in multiple national-cultural insights and multi-scalar insights as well as multiple disciplines. The comprehensive heterogenous approach rules out the use of

a single index of value such as prices. Only a use value approach, focused on real quantities, is possible.

Second, across the world the nature and role of government or state is a crucial factor in shaping the contributions of higher education. In some political cultures there is an arm's-length relation between government and higher education; in others higher education is more closely nested in the state, albeit with varying local autonomy. Variations in political culture and relations with higher education are likely to be highly explanatory in mapping the character, possibilities and limits of the contributions of higher education.

Third, we can focus on variations in the extrinsic contributions of higher education. What factors govern these variations? What independent causal power does higher education exert? To what extent do extrinsic relations work their way back into the intrinsic core, changing education and the knowledge-related activities? To what extent are the contributions of higher education *context dependent*, affected by the extrinsic drivers and state governance; and to what extent are those contributions *own-path dependent*, shaped intrinsically? Detailed case studies and comparisons can start to unpack the dynamics.

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3. Contributions of higher education to society: towards conceptualisation[1]

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INTRODUCTION

The contributions of higher education to society are multidimensional. Some are rather clear and straightforward, such as educating people, transmitting and creating knowledge. Some are more difficult to see, identify and study, such as transmitting values, norms and culture. Some contributions are still being discussed like whether higher education provides opportunities or just reproduces social inequalities. Some contributions are clearly made on a daily basis such as recent vaccination research, while others might be somewhat desirable rather than actually existing, like public critical reflection or visions of the better world.

As participation rates grow and systems expand, higher education affects a higher number of people, larger territories, more social domains and thus presumably makes a larger contribution. In many countries recent educational policies emphasising the social and economic impact of higher education have pushed universities towards closer engagement with their respective communities and demonstration of their usefulness, impact, relevance and economic efficiency. While the economic contribution of higher education has prevailed in the public discourse and has had a significant role in the academic one, non-economic contributions have been under-recognised.

The COVID-19 pandemic demonstrated these larger contributions of higher education to society. It reminded us that higher education cannot be reduced to the transmission of professional, practical skills, but involves more socialisation, personal growth, transformation in many aspects of human development in order to better understand oneself, the world and oneself in the world. The need for physical distancing and transition to online mode revealed the limitations of the

solely online provision and emphasised the key role of face-to-face interaction in learning, socialisation and research activities.

Various social sciences and humanities perspectives highlight various contributions of higher education: knowledge transmission, knowledge creation and transfer, social allocation, credentialling, legitimisation, personal development, effects on individual well-being and many others. All these multiple contributions need some kind of organisation or clarification in order to better and clearly understand what exactly higher education does or can do.

The main research question here is: how can we embrace all the multiple contributions of higher education to society? In order to find an answer, I looked at the ideas developed in macro- and mid-level social theories and also explored the ideas developed around key relevant terms such as contribution, impact, responsibility, engagement and others.

As a result, I was able to reaffirm that there is no ready-to-use conceptualisation of higher education contributions which would fit our broad purpose. The literature review enabled me to develop an original conceptualisation on the basis of existing scholarship.

Some preliminary comments. First, our new conceptualisation should not be based on the list of domains of social life. Higher education as a part of a society and a social institution of society is connected with a society in so many ways (via students, graduates, faculty, administrators, employers, partners, etc.) and many domains (primary and secondary education, government, culture, health care and all other sectors and industries) that it is simply impossible to come up with a comprehensive list of social domains/thematic areas to which higher education in its multiple roles contributes. It includes social and occupational structure, civic participation, health outcomes, deviant behaviour and crime, labour market, general education, family, technological progress, social conflicts and social change among others. In order to avoid a risk of excluding domains or overcrowding our conceptualisation with a long list, we should follow a different, not-thematic approach by taking into account what we believe is important for our understanding of the contributions of higher education.

Second, our new conceptualisation should not place higher education at the centre of social life. Indeed, higher education can be a node (Hoffman & Välimaa, 2016) or a hub (Stevens et al., 2008), but it is not the only point of connection of many other social domains. Arguably, secondary education is more important in that regard just because of the size and participation rates in every society.

Third, we should think about our new conceptualisation not as exclusive or exhaustive, but perhaps complementary to existing approaches. All conceptual schemes reduce the complexity of any social relationships, including those between higher education and society. This kind of reduction is probably

inevitable. Even macro-theories are not able to embrace every dimension and every element. For example, in sociology, various sociological theories focus on various aspects of social life – individuals, groups, positions/roles, relationships, actions, rules, events/practices, but not all of them at once. Those approaches are not mutually exclusive but complementary (Sztompka, 2005).

Finally, we should not think about higher education as a system of inputs and outputs, in a kind of technocratic/system analysis terms. We consider higher education as a process – of learning, growing, transforming, accumulating knowledge and making a new one.

TWO BASIC DIMENSIONS OF HIGHER EDUCATION

The review of various contributions of higher education to society enabled me to identify two important dimensions of higher education. The first is what higher education does: what is in the centre of its activities, its object, what we value or ascribe value to in higher education – the basic and applied knowledge, generic and particular skills, social, cultural, professional norms, the social value, statuses and legitimisation. We can call it an axiological dimension: higher education is an activity with a prescribed value (arguably, some are with intrinsic value), what society and the higher education community believe is important to do in higher education or what it should be like. The second important dimension of higher education is the practices, activities, processes in higher education – which are usually transmission, transfer, transformation and creation. We can call it a praxeological dimension.

The Axiological Dimension of Higher Education: the Knowledge, Norms and Statuses

Various strands of scholarship identify the following three central objects of higher education activities. These are the main domains higher education deals with:

(1) knowledge as an object of teaching and research; skills here can be considered as a kind of practical, applied knowledge;
(2) norms, values, attitudes – social, cultural, professional, political, civic and others;
(3) statuses, social value – reflect the positional nature of higher education which pertains to the credentialling and legitimisation functions of education and its role in allocation in social structure.

What does this triad – knowledge, norms, statuses – not cover here? Perhaps, art objects created in art schools, but they could be 'coded' as knowledge (art-related knowledge).

Arguably it is a human being – as a social construct – that is the object and the subject of education. But a human is constructed via knowledge to be mastered and produced, via social norms to be internalised or created, via social value to be reproduced or established.

Similar roles of higher education are organised in a different from ours, functional way by Stevens et al. (2008) in their review of the achievements of sociology of higher education: allocation function (sorting and stratifying 'sieve'), socialisation ('incubator' for the development of competent social actors) and legitimation ('temple' of certification of official knowledge). They identify a fourth 'function' of higher education – as a 'hub' connecting multiple institutional domains: labour market and economy, professions and sciences, the family, the philanthropy, the nation state. In our view, the function of a hub is of different nature and we will discuss it in the next section.

The proposed new conceptualisation is based on the analysis of various contributions of higher education as discussed in different disciplinary and inter-disciplinary perspectives. Below we will highlight some of these discussions.

Economic perspective

All disciplines traditionally place knowledge and skills at the centre of higher education. In the economic perspective dominated by human capital theory (Becker, 1964; Mincer, 1974) knowledge and skills are essential for technological change, which increases the role of education and the educational requirements in the workplace. Individuals gradually accumulate human capital in a wide range of knowledge and skills, which leads to higher income and status at the individual level and increases the productivity and economic growth on a societal level. Education becomes an individual investment, with the emphasis on the private economic benefits of education and the individual responsibility for educational funding.

This approach has influenced policy making over last five decades, partly because it provides a simple and comprehensible narrative of the relations between individual, education and economy. Another stream of economic thought considers education as a signal of ability and productivity based on Spence's (1973) signalling theory. Arguably, the implications of both human capital and signalling theories are similar and empirically hard to distinguish (García-Aracil & Albert, 2018). In our approach, the signalling function works in a symbolic dimension and corresponds to the social/status value of higher education (also see Chapter 9 on graduate employment and employability in this book).

Sociological perspective

Sociological tradition usually considers education in three ways: (1) as a process of transmission of knowledge and skills which enables individuals to take their place in social and occupational structure; (2) as a process of internalisation of values, rules, norms which enables to maintain society; (3) as the symbolic or status production, which is linked with both knowledge and norms, but specifies that it has a distinctive and differentiated social value. The social value production is based on the positional value of higher education (Hirsch, 1976; Marginson, 1997) which creates reputation and prestige for higher education in comparison to other educational levels and for particular types of higher education (social differentiation among institutions, fields of studies – see e.g. Cantwell et al., 2018b).

Various sociological theories approach knowledge, skills, social norms and statuses transmitted by education and how it affects a society in a different way. In functionalist tradition, education transmits unifying social and cultural norms which maintain society. For Durkheim (1956), internalisation of social norms, rules and discipline through education enables collective solidarity in society. Education also teaches the knowledge and skills necessary for occupational and social roles. For Parsons and Platt (1970) higher education learning involved assimilation of the cognitive content of the subject matter, and the internalisation of values and norms, or socialisation. Socialisation means development of two main capacities: to accept higher levels of achievement as goals for self and others and to participate in and to accept a more differentiated environment with a wide range of action.

In neoinstitutional sociology, the knowledge, values and norms transmitted through education are unifying and universal too, but that is happening because they appeal to a universal cultural core based on a shared assumption of merit-based achievement. Higher education here is a national and global cultural institution which links the role structure of society to universalised cultural knowledge, rather than preparing graduates to fill social roles (Meyer et al., 2007). If traditionally education's role was seen mainly as the reproduction of society by training people for social positions and jobs created by other social institutions, the present larger scale of higher education (its institutionalisation) allows it to be considered as a separate and enduring social institution (Baker, 2014). Education is not just affected by society, but directly shapes society (Baker, 2014; Meyer et al., 2007). Education creates cultural meanings, new social statuses and new human capacities which transform social reality (Baker, 2014). Education legitimises certain knowledge, and certifies certain persons as having that legitimised knowledge and, through it, authority as higher education and knowledge-workers (Meyer, 1977). Thus, the modern world is legitimised and constructed by the education and research system – knowledge and knowledge producers (Meyer et al., 2007; Baker, 2014).

The cultural reproduction theories argue that education transmits various norms and values to various social groups, contributing to social inequalities, power struggle and maintaining the existing social order. The study of the hidden curriculum by Bowles and Gintis (1976) showed that education is a way to teach discipline, hierarchy and acceptance (Giddens, 2009). Language codes could be one of the means of the reproduction of social inequality at schools, as demonstrated by Bernstein (1990). In higher education, the studies of hidden curriculum have not been very prolific, and the issues of how socialisation in higher education is happening, which forms it takes, how it reinforces existing social distinctions and social order still need further research (Margolis, 2001). According to Bourdieu, education is deeply embedded in society and reflects and reproduces the existing social structure and power relations. The key functions of the education are to inculcate the existing social order and to disguise 'the objective truth of its [educational system's] relationship to the structure of class relations' (Bourdieu & Passeron, 1977). Education contributes to the formation of cultural capital, in the form of thinking, speaking or moving, in the form of educational qualification/credentials, and in material form like books or art objects. Education is also important in the acquisition of networked social capital, and can be exchanged into economic capital. All these shape an individual's position in social structure providing an advantage to the privileged social groups (Bourdieu, 1984).

Conflict theory argues that education is essential in maintaining the existing social order by reinforcing the power of certain social groups over others through the occupational and professional structure (Collins, 1971). It is the competition among status groups, imposing their cultural standards on selection, rather than technological change and demand for new skills, that raises the level of education required for various jobs (Collins, 1979; 2002). Even in the high technology sector, training in most recent knowledge and skills is provided by employers in the workplace, and not at universities which are unable to transfer the latest knowledge and skills. The massification of higher education as a self-reproducing process defined as credential inflation (Collins, 2002) has certainly been observed not only in the US. It is the combination of ideologies favouring education, such as technological progress and democratic opportunity, that protect education and lead to credential inflation (Collins, 2002).

Hirsch (1976) developed a similar argument from a political economy perspective: as a positional good, higher education provides a relative advantage to its holder. When the number of holders increases, the positional value of the degree/credential decreases. Thus, positional nature of higher education leads to credential inflation and intrinsically segments the credential market between elite and non-elite positions. The positional good concept also highlights the

social limits of meritocracy as the number of those merit-based positions is limited/scarce.

International social science did extensive research on how selection into higher education works, how academic merit is achieved and how higher education tends to reproduce social inequality by channelling students with socio-economic status into more prestigious institutions, while largely leaving the low institutional tier for first generation students; how the programmes of widening participation, outreach of elite institutions to wider applicant pools and further tracking of working-class students work only partially; how inequality in participation manifests in inequality of outcomes – employment and income (e.g. Cantwell et al., 2018b). All that poses the big question for social science: to what extent does higher education reproduce inequality and to what extent does it provide a social lift?

The research also problematises the transmission of knowledge, suggesting that actual learning outcomes in higher education are often very limited (e.g. Arum & Roksa [2010] on general skills; Konstantinovsky [2017] on 'socialisation' rather than knowledge-intensive training).

Political perspective

In a political perspective, the studies of higher education have been less prolific not belonging to the mainstream of the field in the recent decades (Ordorika & Lloyd, 2015). That did not stop higher education from being a part of a political domain of society (see e.g. Cantwell et al., 2018a). Higher education has been critical in nation-building (e.g. Marginson, 2002) and might be conceptualised as a political institution of the state (Pusser & Marginson, 2012). In mainstream discussions and policies the state has been positioned as neutral rather than representing the elite groups, as a source of funding and as an intruder into higher education expertise-based 'business', which was developed on a Humboldtian myth of the German university model producing universal culture and knowledge (Ordorika & Lloyd, 2015). Political perspective brings an important dimension into the discussion of higher education – the power.

What are the implications of that for our conceptualisation of higher education contributions via knowledge, norms and statuses? Indeed, most contributions of higher education we have discussed so far have a political dimension: which knowledge, norms and statuses are transmitted and to whom, how are they funded and to whom do the results belong? More importantly, which knowledge, norms and symbolic value are not transmitted or created, and, moreover, prohibited in higher education? Which or whose voices are not heard or oppressed? These are political questions. As a part of this, postcolonial, decolonial and anti-racist movements have been proactively supported at universities around the world in teaching, research and knowledge dissemination to the public.

Acknowledging the critical importance of the power dimension in higher education, arguably, is a separate dimension which is complementary to our conceptualisation. Indeed, the social value domain contains the power dimension as reputation and prestige do have power. However, it would be only a partial acknowledgement of the importance of power, which deserves full consideration and further research.

Philosophical-pedagogical perspective

The philosophical and pedagogical discussion directly focuses on the content of educational process. Biesta (2010; 2015) maintains that there are three overlapping 'functions' of education and 'domains of educational purpose'. Two of them correspond to the two above roles indicated in the sociological perspective. It is (a) qualification which pertains to the transmission of knowledge, skills and dispositions, which include general and specific training; and (b) socialisation through the transmission of values, norms, traditions which help people to become parts of social, political and cultural orders. The third function or domain, which was not embraced by sociological perspective, is (c) subjectification or individuation which pertains to the way people are becoming the subjects of initiative and responsibility rather than objects of actions of others. Socialisation ensures that individuals learn how to fit into a society, while subjectification describes the development of independence or agency. In Biesta's view, these three domains cannot be separated; education always deals with all three domains – the content (knowledge), traditions (norms and values) and the person (the subject). In that sense, a one-sided emphasis on only one domain, which current policies place on qualification, might have a damaging effect on the other two.

The subjectification/individuation process, (self-)cultivation as a mission of education, draws on two traditions (Siljander et al., 2012). The German concept of *Bildung* evolved in European thought, drawing on ideas from Ancient Greece and Rome, and the Enlightenment, including the philosophy of Rousseau, Kant, Hegel and von Humboldt, among others. It is a creative process of cultivation of the inner life and individual self-development, the outcomes of which cannot be predefined. *Bildung* points to the ability of the person to overcome external determination and immaturity, but it needs a facilitating, emancipating mediator, a social infrastructure that provides conditions in which it happens, which is formal schooling (Biesta, 2015; Siljander et al., 2012).

The concept of 'growth' was developed later, in progressive pedagogy and pragmatism, in the works of John Dewey and George Herbert Mead among others (Siljander et al., 2012). The idea of growth implies the ability of humans to evolve and continuously change, in a creative manner, in order to adapt to their environment. Creativity developed through experience (in education

it can be implemented through learning by doing) is a key human capacity that enables a person to create a different reality. The growth of self is not spontaneous, it is a function of the person's active experience in conjunction with her/his environment (Väkevä, 2012). It is close to the concept of *Bildung* in relation to self-formation or self-cultivation (Siljander et al., 2012). In both traditions education is seen as a medium for reconstructive growth that extends well beyond a simple transmission function.

Sen's capabilities approach can also provide a way to identify higher education contributions, or missions: e.g., Boyadjieva and Ilieva-Trichkova (2016) highlight transformative and empowering influence of university education.

Further discussion of the transformative role of higher education in terms of personal development is in the section on praxeological dimension (also see Chapter 4 on self-formation in this book).

Historical perspective

The historical perspective is often taken in multidisciplinary higher education research. Zgaga (2009) develops four archetypical models of university. While their names directly refer to specific historical models of universities, the archetypes are not associated with a particular historical or regional context or prominent scholar. Every higher education system is a combination of these four purposes, though in particular systems or institutions, some aspect can be more dominant than others. They are: training for careers (Napoleonic type); creating and maintaining knowledge (Humboldian type); enabling students' personal development (Newmanian type); and preparing students as civic actors (Deweyan model). Each of these missions has not only individual, but also collective or societal implications. The concept of citizenship is immanent to and unites all four purposes or roles of higher education (Zgaga, 2009). These four types might reflect higher education roles we considered above: Napoleonic type pertains to the knowledge and skills formation; Newmanian type focuses on personal development of students (subjectification); Deweyan type develops socialisation as members of society and citizens; and Humboldian type deals with the research mission of higher education.

McCowan (2016) proposes an integration of three key characteristics of universities: (1) value – the degree in which knowledge is treated as having intrinsic or instrumental value; (2) function – the role of universities in storing, transmitting, producing and applying knowledge, the range of activities and roles the university fulfils, which tends to increase over time as the multiversity idea suggests; and (3) interaction – flow of ideas and actors between the university and society. He suggests this analytical scheme could be helpful in understanding the purposes of higher education, the practices organised to achieve the purposes and the links with broader society. The application of these three characteristics to five historical modes of universities (medie-

val, Humboldtian, developmental, multiversity and enterprise) differentiates between the models on the basis of the instrumentality of knowledge, which tends to increase over time; the application of knowledge (from transmission to commercialisation) and openness of universities (low to high porosity). This approach highlights the role and the nature of knowledge and the openness of the system which differentiates it from other approaches.

Higher education research perspective

Engaging with theories focused on knowledge production, Hoffman and Välimaa (2016) bring together the ideas of a networked society and a knowledge society. A networked knowledge society needs and uses knowledge and information and communications technologies and relies on the social network as one unit of social structure. In this non-hierarchical social organisation, universities are important nodes (as spaces) in collective production, transmission, transfer and application of knowledge via networks. Hierarchical and non-hierarchical (network, rhizome-like) relationships coexist in modern higher education.

The concepts of node (Hoffman & Välimaa, 2016) and hub (Stevens et al., 2008) illuminate the complexity of higher education's position in a society and its connectedness to many other social domains. They refer to spatiality rather than to the content, they ask 'how', while 'what' is either already established (knowledge in the former approach) or not clear (in the latter approach).

Studies of the impact of higher education provide another avenue towards analysis of the contributions of higher education. McCowan (2018) proposes to conceptualise the impact of universities in terms of six elements: source, form, trajectory, intensity, timescale, destination. Each contains a variety of options making the concept itself very complex and multi-layered, suggesting that the impact of universities cannot be reduced to a unified concept and a unified measurement tool. McCowan suggests instead the term 'generative intrinsic', which implies that the impact of universities is 'organic to their intrinsically valuable practice' (p. 292). That means that exploration, deepening of understanding, knowledge of ourselves, societies and the universe is the focus of higher education teaching and research. It is argued that this orientation towards enquiry does not need any further justification (it is the source of impact itself), but it provides multiple benefits to society in many areas, although they might be unpredictable or controllable (in relation to timescale, destination and other elements conceptualised above). In this approach, the knowledge becomes the central category.

Brennan (2008) provides three perspectives to consider higher education's impact on society: its role in constructing and supporting the (a) 'knowledge society'; in constructing (b) 'just and stable' society; and in constructing (c) the 'critical society'.

Oketch et al. (2014) use three pathways or pillars – teaching, research and service as direct engagement of institutions with local communities and society – through which tertiary education can have an impact on socio-economic development. This model differentiates between three resulting 'products' of education: (a) outputs (graduates and research/innovations); (b) outcomes (increased earnings, increased productivity and efficiency, increased tech transfer, improved capabilities, improved formal institutions and norms); and (c) an impact, which is an aggregate concept of economic growth and development, the end point of each of the pathways. This approach does try to disaggregate complex relationships between education and society/economy but faces the same challenges of the multiplicity and complexity of links between education and society.

Other approaches to impact tend to be organised around the list of domains in which higher education has impact. O'Carroll et al. (2006) discuss labour market spillovers, civic participation, health outcomes, crime and private non-market benefits. Findler et al. (2019) find six impact areas where direct and indirect impact may happen: economy, societal challenges, natural environment, policy making, culture and demographics.

Contributions to the regional development also tend to follow a categorisation logic. For example, Trippl et al. (2014) identify four conceptual models in the literature – the entrepreneurial university model, the regional innovation system model, the mode 2 university model, the engaged university model – which highlight different activities of universities and different contributions defined as beneficial for their regions.

Another stream of literature addresses the contribution of higher education through the role or public role of university. The public role of university is discussed in three main contexts. First is the public/common good context where the public role of universities is intrinsically connected with the public good produced by higher education. The concept of public or common good developed in political economy is another conceptual approach to look at the relationships between higher education and society (see Chapter 10 in this book). This concept emphasises and acknowledges the contribution of higher education to society, but the notions of what is 'public' vary (Marginson, 2016). The public good concept embraces the source of provision and the location of provision, as well as the identity of the beneficiaries (whose public goods?), which makes it difficult to operationalise and develop an analytical framework for empirical research (Marginson, 2016). It is also shaped by society's commitment to achieve common good (Boyadjieva & Ilieva-Trichkova, 2019). Biesta et al. (2009) approach the public role of universities asking a question as to what universities actually have to offer regarding their public role in relation to the three main university roles – education, research, service; as well as in relation to internal university life. Public role of universities is

often seen as a contribution to social equity (and hence, equality of access, broadening participation discussion, e.g. Weber & Bergan, 2005) and to production and dissemination of knowledge (e.g. Calhoun, 2006).

Social value or social responsibility is another approach. Kelly and McNicoll (2011) measure the social value of universities employing methods used for measuring social value in the third sector by identifying the list of stakeholders in the public sector. Ayuso et al. (2020) employ integrated social value (ISV) analysis which includes identification of stakeholders, identification of value variables, monetisation of indicators and calculation and visualisation of the value created. 'University social responsibility' and 'corporate social responsibility' of higher education is another economic, business-like approach to the role of higher education (e.g. Larrán Jorge & Andrades Peña, 2017). It is based on stakeholder's theory and suggests that university social responsibility means integration of ethical, social and environmental principles and values in order to meet the expectations of stakeholders (Larrán Jorge & Andrades Peña, 2017).

The stakeholders' approach has been very influential in higher education research in the last few decades. It does not offer a special role for higher education institutions, but rather provides a perspective where organisations are considered as embedded in their environments. The stakeholders' approach has apparently come from the organisational theory which applies it to any kind of organisation. Sometimes 'stakeholders' and 'communities' are used interchangeably (e.g. Jongbloed et al., 2008). Benneworth and Jongbloed (2010) employ the definition of stakeholders as 'actors—organizations, agencies, clubs, groups or individuals—who may gain or lose from an organization's activities, with an interest ("stake") in the organization's performance' (p. 569). It is not unusual for the stakeholders' perspective to present comprehensive lists of stakeholders, which might include actors inside and outside universities: governing agencies, universities administration, employees, students, suppliers in a broad sense (including secondary schools), competitors, donors, communities, governmental and non-governmental regulators, financial intermediaries (such as banks), joint venture partners (Benneworth & Jongbloed, 2010). Stakeholders differ on various bases, but importantly, they differ on the basis of salience (Benneworth & Jongbloed, 2010). That means that stakeholders might not realise that they are affected or can be affected by a particular organisation. The stakeholders' approach was developed to use for strategic planning in business, which implies critical importance of understanding of changing environment and resource planning. That partly explains the popularity of the stakeholders' perspective in higher education: such New Public Management models of higher education governance have been developed under shrinking governmental support and increasing massification which created additional pressure on resources.

In our approach, we consider higher education as a social institution at societal level rather than at organisational level (which does not exclude organisational level though). The stakeholders' approach places an organisation (a university in our case) in the centre of social interaction, like a node or a hub, and enables to look at all links which connect a university with its partners, like in network theories above. Emergence from a business literature sets some limitations on its application to higher education (Jongbloed et al., 2008). Unlike business organisations, higher education institutions have much larger roles in society at local, national and global levels and in many social domains, their links and interrelations are arguably much richer than the relationships of a business organisation with its stakeholders. 'Stakeholders' can not always be real actors in the activities of universities, cannot engage, fully envisage or guess how they might be affected by higher education institutions. For example, the research function is one domain where only a small group of actors would be aware – the researchers themselves, funding bodies and direct 'consumers' of research. The wider public might be only very partially informed about the contributions made by higher education in the form of new research developments, popular science books, public lectures and art exhibitions.

The above overview of the approaches developed in social sciences and humanities is provided in order to support the argument that the knowledge/skills, social and cultural norms as well as social/symbolic value are at the centre of higher education activities and contributions. Most approaches use one or all of them as important characteristics of higher education's role and contributions. Research activity of higher education and so-called knowledge transfer in various senses are considered here as knowledge-centred processes.

Let us now consider the second dimension.

The Praxeological Dimension of Higher Education: Activities and Processes in Higher Education

The second dimension of higher education is the activities or processes higher education is involved in, what higher education does in relation to the object of activities. Arguably it is three processes:

(1) transmission (which includes transfer);
(2) transformation;
(3) creation.

Social science approaches, as we saw, traditionally focus on two social processes in higher education: the transmission of knowledge, skills, norms and social value to students or wider public and the creation of knowledge

through research. But the philosophical tradition emphasises the importance of the broader transformative mission of higher education. Biesta (2011) underlines that education is a potentially transformative process whose purposes are achieved through teaching. Instead of just servicing the existing needs of a society or economy and thus adapting to whatever society asks for and without anything new to add, higher education should engage in critical examination and transformation of existing needs and desires. Dall'Alba and Barnacle (2007) emphasise the transformative effects of education not only in terms of knowing but also in terms of acting and being, and call for an ontological turn in higher education. They argue that ontological aspects of education were subordinated to epistemological ones – education treated as transmission of knowledge and skills, generic or specific. Instead education should involve an integration of knowing, acting and being.

Ashwin et al. (2016) and Ashwin (2019) emphasise the transformative engagement with disciplinary knowledge as a purpose of undergraduate education. Having based their research on qualitative longitudinal study of undergraduate students in various disciplinary, institutional and national settings, they track the transformation of students' relationships with knowledge and society as well as their identities over the course of study. They argue that higher education should not be reduced to and measured only by employability, graduate salaries or generic skills (which are not universal, but disciplinary based). It is designed for and provides much wider transformative agenda for students. Marginson (2018) focuses on the process of self-formation, which highlights a student's self-determining agency, shaped partly in and through higher education which facilitates successful self-formation and enhances the individual's agency freedom in the social environment. These approaches to higher education as a personal transformation draw on, among others, and resonate with, the *Bildung* idea and also highlight the need of a structural setting in which transformative educational processes occur (also see Chapter 4 on self-formation in this book).

While acknowledging the importance of the transformative agenda in higher education, we should note that the borderline between the transformation and creation and the introduction of this distinction is arguable. For example, what is newly created knowledge and what is transformed knowledge? What is a newly created personality and transformed personality?

At this point it is plausible to argue that a three-process model enables us to emphasise the agential, transformative role of higher education – that it not only transmits what already exists, not only creates new from the scratch, but that it has an ongoing internal activity which contributes or could contribute to the change, evolution or revolution – of students, faculty, ideas, knowledge, values, tastes, cultural norms, statuses. It also enables us to enrich the scope of higher education roles by both accommodating already established ones (e.g.

Table 3.1   *The contributions of higher education, individual/collective/ local-national/global*

		Praxeological dimension (processes, activities)		
		Transmission	Transformation	Creation
Axiological dimension (domains)	Knowledge/ skills	Qualification (1)	Knowledge-based transformation (4)	New knowledge creation (7)
	Social and cultural norms	Socialisation (2)	Norms and values-based transformation (5)	Normative innovation (8)
	Social value/ statuses	Credentialling (3)	Social value-based transformation (6)	New status construction (9)

Source: Author.

personal transformation through learning and research) and inquiring about others, whether they already exist or should they exist, allowing for some normative, teleological dimension.

THE CONCEPTUALISATION OF HIGHER EDUCATION CONTRIBUTIONS TO SOCIETY

The new conceptualisation of contributions of higher education presents them in both axiological (knowledge/skills, norms, statuses) and praxeological (transmission, transformation, creation) dimensions. The three-by-three continuum creates nine domains of higher education's contributions to society (Table 3.1).

Three transmission domains cover well all the traditional roles of higher education: the transmission of knowledge and skills (qualification domain 1), values and norms (socialisation domain 2) as well as social statuses (allocation and credentialling function domain 3). These roles are described well in the literature at both at individual and collective levels (e.g. domains 2 and 3 – how elite institutions instil elite jobs aspirations – see e.g. Binder et al., 2016).

The transformation domains include the transformation of knowledge and skills (domain 4). This might include transformation of a person through knowledge in epistemological sense, transformation through knowledge as well as the transformation of the knowledge itself. The transformative process of higher education involves subjectification or personal transformation (domain 5) as the process of developing one's own normative and value framework. Personal transformation is not only in the knowledge domain, but also in the normative one, as social norms regulate individual and social

behaviour. That works at the individual level, but also at the collective one, as long as there is a mass process of individual transformation through higher education, and that is so far under question. The transformation of social status can be a process of social recognition of groups/ideas (6) which is a discussion well embraced in the scholarship, especially in relation to education as a social lift. This domain should work well at both individual and collective levels: for example, we can place here personal transformation through social value, for example, how attending an elite institution might affect an individual's social status. All three domains of transformation are interrelated: attending an elite institution, for example, can facilitate personal transformation through knowledge, skills, social norms as well as new social statuses conferred by the institution (think about an 'imposter syndrome' often discussed within elite universities' students and faculty – that requires certain internal personal work to process).

Three creation domains cover well the research function of higher education (knowledge creation [7]). The next one leaves us with more questions than answers. The creation of new social and cultural norms (domain 8) is indeed an important social process in any society, but here we can ask whether higher education really contributes to that important process? That contribution of higher education could be described as a public role of higher education, for example in relation to maintaining designated spaces in society for critical reflection, development of new behavioural models – for example, in green economy and lifestyle. In many ways, higher education was more responding to social changes rather than initiating them, setting an agenda or promoting new ways of living and thinking (see e.g. Brennan et al., 2004). This also includes the discussion of the role of public intellectuals who are mostly based at universities (e.g. see Burawoy [2005] for the role of public sociology). The creation of new statuses, ascription of social value (domain 9), is also an important contribution of higher education. An example could be new training programmes which help to establish new professional groups and provide them with status and legitimisation; in this sense professional doctorate programmes could serve as an example of such creation.

Let us consider an example of tackling climate change – how can we approach the real and potential contributions of higher education (Table 3.2; see also Chapter 5 in this volume).

In the domain of knowledge and skills, higher education does or could do more in equipping graduates with necessary knowledge and skills to understand the core and the implications of the issue, to be able to work with the available green technologies, to do more research and contribute to the development of new technologies. These knowledge and skills should be transformative at the personal level and also should transform our knowledge of climate change and ecology. Apparently, the research on climate change should not only be in

the STEM disciplines; social sciences and humanities have much to say about social and cultural underpinnings of the existing social order which fails to address the climate issue. Higher education institutions should also transmit or transfer these knowledge and skills to wider communities in the form of public lectures, exhibitions, cultural events, working together with governments, non-governmental organisations, international organisations and business.

Table 3.2　　　*The contributions of higher education in tackling climate change*

		Praxeological dimension (processes, activities)		
		Transmission	Transformation	Creation
Axiological dimension (domains)	Knowledge/ skills	Training for a greener world, building climate change awareness(?) (1)	Transformation through knowledge on climate change; transformation of knowledge(?) (4)	New research, new technologies (sufficiently?) (7)
	Social and cultural norms	Socialisation (old non-green norms and values?) (2)	Transformation through norms and values supporting greener world? (5)	Does HE create new social norms and values for a greener world? (8)
	Social value/ statuses	Credentialling of graduates majoring in climate-related issues (3)	Social value-based transformation (does HE ascribe high social value to climate change agenda and its proponents?) (6)	Does HE create new statuses for climate agenda support(ers)? (9)

Source:　Author.

Along with knowledge and skills, the normative dimension of the problem is equally important. New knowledge about the sources of climate changes and scientific suggestions on how to address them transform our daily social norms, values and attitudes. Higher education contributes or should contribute more to the formation of new social and cultural norms. We should ask what kinds of norms do higher education institutions transmit at the moment, what kind of socialisation in terms of climate change behaviour higher education provides, what kind of people and agency higher education develops, does it teach subjection and hierarchy as social science suggests or has space for proactivity?

The third component of higher education – social value – is intrinsically interconnected with the other two. It confers social statuses to those who work in green industries, but does it provide sufficient symbolic support, construct new social statuses for climate activists, new research and innovative technologies? We can see, for example, that some universities stop investing their funds in fossil fuels – a welcome development, which conveys the critical importance of the issue – but that is not enough. The nine-domain conceptualisation enables to ask these and more questions and helps to see what more can be done in higher education. If some of the contributions do not happen, we can ask why and how can we change it and that would be also a very important discussion.

Being multidisciplinary, this conceptualisation might look too broad, but it helps to identify the most important dimensions and to focus on any particular domain employing a disciplinary perspective. For example, pedagogical research could inquire about the subjectification in the context of climate change – what kind of a person higher education helps to form now and which one it should; a sociological study could address which social norms in relation to climate change higher education instils and supports; economic research could address the economic aspects of climate-change related knowledge production in higher education.

CONCLUDING REMARKS

The suggested conceptualisation is the result of the literature review which enabled me to analyse, group and categorise various strands of scholarship on the roles and missions of higher education. It is based on the way previous research was developed but with an attempt to overcome certain intrinsic difficulties, such as the range of thematic areas higher education could potentially contribute to. While many research efforts are focused on the advancement of certain areas higher education deals with – teaching and learning, research and knowledge production, public engagement – this conceptualisation is an attempt to embrace all higher education missions and roles.

We should not forget that the contributions of higher education should be also considered in terms of power relations – the important dimension which exceeds the capacity of this conceptualisation. But the conceptualisation can be used to analyse how higher education contributes to the politics, political or policy domains. That would also enable us to bring in the funding aspects: what is being funded and why.

The new conceptualisation provides a number of advantages. First, it goes beyond traditional roles of higher education as explored within one disciplinary tradition and offers a complex multidisciplinary view of higher education contributions from social sciences, philosophy of education, pedagogical

perspectives. It proposes a complex picture of the domains higher education addresses and works with. Without listing all of them – politics, health care or culture – it captures the intrinsic and social essence of higher education. It does not reduce, does not simplify higher education to one mission but offers space for a multiplicity and complexity of contributions.

Second, this conceptualisation could be applied to the analysis of any social domain, both conceptually and empirically at individual and collective levels, locally, nationally or globally – for example, it is possible to study higher education contributions in the climate change, political or engineering domains. Moreover, it enables to ask difficult questions about the contributions of higher education: what does it do and what should it do more, in which domain?

Third, our axiological approach to higher education provides a broader perspective on higher education embracing intrinsic value of the learning and research process. It illuminates non-economic, non-monetary contributions of higher education overcoming the widespread policy temptation to reduce higher education to economic and business-like missions. The financial aspects or jobs are not at the core of higher education activities. Higher education is not meant to produce financial or labour market gains. It does or should equip students with knowledge, norms and some statuses, but production of profits is not what higher education is about. This non-economic outlook helps to disentangle the broader purposes of higher education in society and economic/ financial purposes which do not intrinsically belong to higher education. Not embracing the models developed in business and organisational studies, this conceptualisation emphasises the distinctive nature of higher education different from business organisation.

Fourth, we can further problematise the status dimension of higher education. Thinking of egalitarian society and acknowledging the limits of positional nature of higher education, we should ask whether higher education should produce social statuses? Is it desirable? The logical step would be to separate higher education from its social status which is probably what high participation in higher education is already doing. But that often is accompanied by the bifurcation of the sector, with elite institutions gaining and securing more prestige (Cantwell et al., 2018b).

Finally, the new conceptualisation shows that all higher education works with – knowledge, norms and social value – are not pre-given but are developing and being constructed. Knowledge, norms and statues can be transformed and created. Higher education is a dynamic social institution, or at least it can be more than it is now. These illuminate the transformative potential of higher education in changing our societies for the better.

Recent research shows that it is higher education which makes a difference in current political transformations: in Western democracies, the social-democratic, democratic, left, socialist agenda has become the aspira-

tions of those who have higher education, while right and nationalist views are supported by populations without higher education and high-income groups (Gethin et al., 2021). This socio-cultural-political shift in the post-World War II period reflects the important role higher education has had and will have in societies. The massification of higher education and achieved high participation in higher education creates a binary cultural divide in societies, where half of the population has higher education and the other half does not (Smolentseva, 2018; 2021). That produces further potential tensions in resolving global issues such as climate change and social justice. It does highlight the transformative role higher education plays in individual lives and the collective being. It shows that higher education needs further research and this new conceptualisation is a contribution to the ongoing scholarly discussion.

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4. Higher education as student self-formation

Simon Marginson

INTRODUCTION

It is often said that the most important contribution of higher education is the education of students. Such a statement may seem student-centred, but in most cases it is not. The same contribution of higher education is often described more mechanically as 'the production of graduates' or the 'formation of students'. Students are seen as objects, as an other, in a process executed by educators or institutions who are the subjects. The outcomes, the graduates-as-object, are judged according to what they can do when used by someone else. Graduates are not judged by what they are, or what they can do for themselves.

What graduates can do for others is sometimes imagined as 'graduate attributes'. These are seen as portable competences that students acquire. Graduates can put them on and off, and display them, like a cloak. This notion of portable attributes owes something to the human capital idea. There is a grain of truth in it but only a grain. Graduates do carry something with them everywhere, and it augments them, but not in the way human capital theory imagines, as an average market price of their labour – a supposed graduate attribute that suddenly vanishes when the labour market collapses. The contribution of higher education to students is not like a cloak. It is more like a skin, or perhaps it is deeper.

At best higher education enables people to transform themselves through the never-ending 'work of the self on the self'. This was how Michel Foucault (2005, p. 16) described self-formation. In his last three years of lectures he went back to Greece and Rome to study how the ancients made their freedoms – how the Stoics, Epicureans and Cynics learned so brilliantly to form themselves as autonomous beings, using regimes of practice. This is what higher education does in the contemporary world. It helps people to form themselves, though few students have a focus as determined as the Stoics and the Cynics. Perhaps higher education is most transformative for doctoral students. In their

sustained projects they often enter closely into their own intellectuality and develop deeply reflexive trajectories. However, all students can grow themselves in higher education if they want.

Components of Self-Formation

This chapter will argue that, all going well, higher education is *a reflexive process of self-formation* that establishes, or deepens, ongoing self-making, grounded in self-aware agency, that continues through life. Higher education as self-formation is empowering. It is a freedom without limit. The integral elements of higher education as self-formation are the autonomy of the learner, the will to learn, reflexive agency, and immersion in knowledge.

Autonomy: Self-formation begins with autonomous persons with agency freedom, capable of self-directed and conscious action, who apply their will to their own objectives.

The will to learn: Higher education as self-formation rests on the irreducible fact that while learning is conditioned by external factors, by the learner's background and resources, by the shape of the higher education system and its intersections with other social sites, and by the institution, curriculum, and teaching and learning resources, only the learner does the learning. The learner is not an empty vessel waiting to be filled. The learner is a person with a will, agency, a drive to learn. Otherwise, no learning occurs. Though the drive to learn can be triggered extrinsically, by the discipline of parents, the example of peers, the inspiration of teachers or the requirements of professional credentialling, there is an irreducible moment when the learner makes self-formation an intrinsic process.

Reflexive agency: Each person's evolving sense of self and objectives, the 'who I am', 'who I am becoming' and 'what I want to be', is sustained by conscious reflexive agency in the inner self, the continuing processes of critical self-monitoring, self-evaluation, self-criticism and self-regulation. Reflexive agency is at the heart of not just progress in education but forming ideas, making things, building relations and achieving a career.

Immersion in knowledge: In higher education people develop themselves primarily (though not only) by working on themselves amid immersion in knowledge. The factor of knowledge, which is a collective property and a medium which engages students in social relations, distinguishes self-formation in higher education from self-making in other contexts. Immersion in knowledge expands the techniques and resources for working on oneself, offering an open potential for transformation, for knowledge has no borders. Self-transformation in higher education is enriched by sharing it with others, inside and outside the classroom. The curricular and extracurricular

knowledge absorbed by students become part of their reflexive sense of self and their conversation with themselves and others.

Self-formation is a condition of higher education, its central process and its most important outcome. The capacity for self-formation begins in people very early (Vygotsky, 1978). The conscious will to learn can emerge prior to adolescence (Li, 2012), though the extent to which there is self-aware reflexive agency at the beginning of higher education varies between persons. Higher education is a concentrated period of self-formation within the life-course, during which agency freedom and conscious reflexivity have the opportunity to flourish, and the person's sense of self and social relations are permeated by specific knowledges. Will-directed making of oneself accumulates throughout the rest of life.

Self-formation in higher education has many contemporary parallels. Political democracy, mass education and borderless markets all bring the self-critical reflexive self to the front. Consider consumption, fashion, body management and wellness, the fascination with political identity. Anthony Giddens (1991) describes modern life as a never-ending reflexive project of the self (p. 32). No doubt self-formation in higher education is one of the conditions for the worldwide normalisation of the reflexive self, as well as vice versa.

The Chapter

The idea of higher education as self-formation discussed in this chapter arose from research on international education, including 270 semi-structured inter-views (Marginson et al., 2010) that identified reflexive agency in international students (Marginson, 2014). The 2014 paper led to empirical studies by other scholars, including Tran (2016) and Oldac (2021) on international students, and Lee (in process) on academic self-formation. Following an earlier lecture (Marginson, 2018) the chapter extends the idea of self-formation from international education to higher education as a whole. The chapter expands on higher education as self-formation, starting from agency freedom, the reflexive inner self with a will. It draws on theorisations and empirical studies which explore reflexive agency in general and in higher education, including agency immersed in knowledge. It takes material from social theory, educational philosophy past and present, research in psychology and studies of higher education. The chapter primarily works with theory and concepts and is itself a theorisation.

Some will find the mix of ideas, from Foucault to Lev Vygotsky to Confucius to John Dewey to contemporary psychology, unacceptably eclectic. The material is held together by the focus on reflexive student agency. Not all

of the thinkers discussed here consistently position the self-forming agent at the centre, but all of them help us to understand this.

AUTONOMY, AGENCY AND REFLEXIVITY IN SOCIAL THEORY

Social theory discusses elements of self-formation including autonomy, will-bearing agency and reflexivity. Scholars vary in their judgements of the scope for autonomous agency, in the context of structural factors like economic inequality, social hierarchy and inherited culture.

Amartya Sen (1985) identifies three components of freedom. First, the freedom of the individual from external threat, coercion or constraint. Sen calls this 'control freedom'. Second, freedom as the capacity to act. Sen calls this 'freedom as power', and later (Sen, 1992), 'effective freedom'. Third, there is 'agency freedom', the centring component, the seat of the autonomous human will and self-directed conscious action. 'A person's "agency freedom" refers to what the person is free to do and achieve in pursuit of whatever goals or values he or she regards as important' (Sen, 1985, p. 203), 'whether or not' we assess those goals 'in terms of some external criteria as well'. Agency freedom may take in family, friends, commitments, status, dignity, making things, satisfying work and the scope to realise forms of life. It can include shared collective as well as individual goods. It is about determining one's own life, though under conditions one does not fully control.

Agency freedom is secured when people have the 'capabilities' to lead the life they value. Capabilities 'depend on the nature of the social arrangements, which can be crucial for individual freedoms' (Sen, 1999, p. 288), including income, education and health.

Margaret Archer and the Inner Conversation

For Margaret Archer (1995), the key problem is relations between structure and agency. 'Structure' includes material resources and also 'ideational' culture, including language, knowledge and information. There is also human society. 'Society takes shape from, and is formed by, agents, originating from the intended and unintended consequences of their activities' (p. 5). Outlining her 'morphogenetic approach', Archer describes a continuing interplay between the elements external to the self and the agency freedom of individuals. 'We are simultaneously free and constructed and we also have some awareness of it' (p. 2).

While structure and agency both have causal powers and can affect each other, causality is not exercised automatically or instrumentally. Archer starts from what she calls social realism, a cousin of critical realism (e.g.

Sayer, 2000), which sees the world as ontologically open and multiple.[1] In this worldview, as was discussed in Chapter 2, neither structure nor agency is 'immutable', fixed. Archer (1995) identifies an 'analytical dualism' in which structure and agency constitute different levels of a stratified social reality. Both structure and agency are emergent. Relations between them are always open and neither determines the other. 'The human being is neither pre-given nor socially constructed' (Archer, 2000, p. 50). They do not continually constitute each other, as suggested by Giddens and Bourdieu; nor are they symmetrical in relation to each other, or combined in a dialectic, which would again suggest identity. 'Each possess autonomous emergent properties which are thus capable of independent variation and therefore of being out of phase with one another over time' (Archer, 1995, p. 66). They are heterogeneous.

Structures pre-exist people. People do not create structures, they can only reproduce or transform them (Archer, 1995, p. 72). However, 'people are not puppets of structures because they have their own emergent properties' (p. 71). 'People are capable of resisting, repudiating, suspending or circumventing structural and cultural tendencies, in ways which are unpredictable because of their creative powers as human beings' (p. 195). 'Agency … can speed up, delay or prevent the elimination of prior structural influences' (p. 78).

The point is that there is much scope for autonomous agency. This includes collective as well as individual agency. 'The causal powers proper to agency itself … are the powers which ultimately enable people to reflect on their social context, and to act reflexively towards it, either individually or collectively' (Archer, 2000, p. 308). However, 'agential powers are always conditioned though not determined, by the socio-cultural context in which people live'. This 'regulatory mechanism' is affected by agents' responses to their conditions, their economic and cultural resources, and their positioning in society which determines the available social identities (Archer, 2000, pp. 269, 10; Archer, 2003, p. 131). One sign of the autonomy and potential heterogeneity of agency is that different people can have varied responses to common external conditions (Archer, 1995, p. 70).

Archer's theorisation also discusses the inner mental life of agents, and their reflexivity. She distinguishes between the continuous sense of self, the bearer of expectations and responsibilities – which she says is universal to the human condition, citing Marcel Mauss in support – and variable social identity (Archer, 1995, pp. 282–283). Our self-consciousness as persons develops out of 'the ways we are biologically constituted, the way the world is, and

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[1]   In her study of the inner conversation Archer opens Pandora's box, ontologically speaking: 'Reality itself is not homogenous; rather it is made up of entities whose own constituents are radically different from one another' (Archer, 2003, p. 35).

from the necessity of our human interaction with the external environment' (Archer, 2000, p. 50). It 'emerges early in life and is the source of reflexive self-consciousness which lasts throughout life – continually informing us that the things which happen to us ourselves and the things we make happen, all pertain to the self-same thing' (p. 255).

Archer repeatedly emphasises 'the relative autonomy, pre-existence and causal efficacy of human persons in relation to social selves' (Archer, 1995, p. 285). This autonomy enables the 'private consciousness', which she also calls the 'synthesizing self', to 'reflect upon' the social or public self (p. 292). In 'this rich inner life of reflection upon reality', this 'inner conversation' with ourselves, we give shape to our lives (Archer, 2000, pp. 9–10). Because we have 'that prime human power, our self-consciousness … we are reflexive beings, to know oneself to be the same being over time, means that one can think about it' (p. 8).

Self-reflection is an emergent power, 'neither pre-given nor the gift of society' but continually formed in practice, through living actively in the world (Archer, 2000, p. 8). Archer's focus on 'practice' as a source of mentality, learned agential responsiveness to the external settings, is paralleled by Dewey's (1916) trope of 'experience', and the argument of Biesta and Tedder (2007). But it is reflexivity that is key. The inner conversation is 'the missing link between structure and agency' (Archer, 2003, back cover). It is 'the mode of articulation between people and reality' (Archer, 2000, p. 306). The inner conversation 'enjoys its own relative autonomy, temporal priority and causal efficacy' (p. 193). Here we define ourselves, accumulate self-knowledge, review our evolving commitments, sort our priorities, reflect on the external world as an object, and weigh our actions in relation to external factors affecting our interests (Archer, 2000, pp. 11–12, 201, 298, 300, 318).

Reflexivity embodies continuous self-evaluation, 'like a conscience' (Archer, 2003, pp. 26, 32, 73). The essential processes involve self-questioning: self-monitoring, self-clarification, self-appraisal, self-doubt, self-criticism, self-correction (p. 97). Archer (2003) studies 20 individual cases, categorising different kinds of reflexivity, with varied scope for proactivity. In one person, the inner conversation is almost absent, which is very limiting.

Autonomous agency and reflexivity entails work. 'Self-knowledge is something that we produce internally and dialogically; it is not something that we discover "lying inside us"' (Archer, 2003, p. 103). The individual is 'an active subject in shaping his or her own life' (p. 116). She or he fashions projects, including the self as a project, as Giddens suggests:

> At any given time, the future will seem open, which accounts for our sense of freedom, but it is being made in the present by the projects that we discursively endorse and the activities in which we engage accordingly. Of course, in an open

system, future contingencies can intervene to disrupt and distort such a trajectory. Nevertheless, the fact that we are made as we are as human beings and self made as persons, who have acquired a personal identity, means that we are also and necessarily project makers. (Archer, 2003, p. 115)

In addition to the central points that education is facilitated by, and a facilitator of, personal reflexivity; and education, especially knowledge, is a source of cultural resources for self-making; Archer's work has another implication for higher education. Because the world, including the social world, is an open system, and because we have a personal identity and an inner conversation, we are not exhaustively formed by socialisation (Archer, 2000, p. 221). This sets limits on the scope of other-formation in education. As noted, teaching needs to enlist the self-forming inner conversation as an ally, if it is to be effective.

Michel Foucault and the Autonomous Will

Michel Foucault studies human subjects in relations of power. He has a lifelong concern about control freedom in Sen's sense, freedom from determination by the state, but his work moves from a focus on the constraints on freedom, to methods of expanding it.

Foucault's mid-career work on power-knowledge emphasises how we are controlled and self-regulated. He dissects disciplinary projects of states such as the prison and the school and the regimes of truth associated with them (Foucault, 1975). The work on 'governmentality' (Foucault, 1991) expands on agency freedom within disciplinary regimes. Relations of power are decentralised in micro-capillaries running through society, in which the autonomous power of subjects is shaped by external agendas. The will itself is captured.

In his last three years before his death at 57, however, Foucault moves to what Archer (2000) calls 'the late foucauldian project of self-formation and self-enrichment' (p. 34). He introduces 'a more robust self-concept' (p. 19). In his own words there is a 'theoretical displacement' away from the conflation of power-knowledge to 'the relation of self to self and the constitution of oneself as a subject' (p. 33). Instead of showing how individual freedom is normally controlled, he focuses on how to separate it from control altogether.

For Foucault, unlike Sen, freedom lies not so much in changing external conditions to expand the scope for agency, but in directly changing oneself as agent (Foucault, 2005, p. 251). The self, he states, is the only condition over which we have full control – the only object we can freely will 'without having to take into consideration external determinations' (p. 133). This recalls Archer's point about the heterogeneity of structure and agency, but pushes beyond it to explore how individual autonomy is enhanced. People are more free than they know, states Foucault. They do not make full use of their poten-

tial (Ball, 2017, pp. xv, 55, 61). The key is the development of the autonomous free will through disciplined personal regimes of self-making, through knowledge and technique. As Biesta and Tedder (2007) state, agency is 'something that is achieved, rather than possessed' (p. 132).

Foucault shows that autonomous self-formation is feasible *because it has been done before*. He describes the practical philosophies of the Greeks and Romans that were focused on autonomous self-making, prior to Christianity: meditation, self-examination rituals, rules of ethical conduct, truth telling (parrhesia), and the forms of the 'other life' of the Stoics and Cynics. In these practices the Hellenic world was more advanced than us. While 'the theme of return to the self' has recurred in modern culture, 'I do not think we have anything to be proud of in our current efforts to reconstitute an ethic of the self' (Foucault, 2005, p. 251).

For Foucault 'freedom is the capacity and opportunity to participate in one's self-formation' (Ball, 2017, p. 69). But this is an often arduous 'work of the self on the self, an elaboration of the self by the self, a progressive transformation of the self by the self' (Foucault, 2005, p. 16). This brings reflexivity to the centre. For the Greeks and Romans, reflexive self-criticism always involves something different, something 'other'. There were two main modes of reflexivity. The Platonists had the 'other world', an imagined ideal world against which this world could be critically judged. For the Cynics, if a human life was truly a life of truth, 'must it not be an other life, a life which is radically and paradoxically other?' (Foucault, 2011, p. 245). The Cynics were the most successful in achieving autonomy. They lived distinctive, challenging lives of their own determination, outside the normal, concentrating a relentless will in sustaining conduct which scandalised their communities, even to the point of ostracism and death. Foucault's final conclusion, in the last sentence of the last lecture in the month before his death, is that in autonomous self-formation we open ourselves to transformation, to becoming something different, through the device of the 'other world', or by living the 'other life' (Ball, 2017, p. 56; Foucault, 2011, p. 340).

Ball (2017) concludes that while education is 'one of the key sites in which the processes of normalisation are enacted', as the earlier Foucault showed, it can also be 'a locus of struggle for productive processes of self-formation and freedom' (p. 3). Higher education is a place for remaking the self in terms of the other world or the other life. Student activists reimagine the world through the lens of another, better world and practise a prefigurative politics in which they live the 'other life'. Mobile students are living in the other world, even the other life, in their self-transformation (Marginson, 2014).

There are differences between Sen, Archer and Foucault. Sen is the most deductive, wanting to free agency through structural change. Foucault's logic is primarily inductive. His individuals can separate themselves from their

condition. Agency is socially defined but might be an other to society. Archer takes a middle position, identifying heterogenous causality in both directions. Nevertheless, all agree on the centrality of autonomous agency freedom, and that it is partly decoupled from structure. Archer has the most to say about reflexivity. It is also central to Foucault. Foucault takes furthest the work of the self on the self, which is articulated through learned knowledge and technique, as in higher education.

REFLEXIVE AGENCY IN EMPIRICAL PSYCHOLOGY

Vygotsky's Social Psychology

Lev Vygotsky's (1978) empirical research in the social psychology of child development traces the evolution of reflexive agency. Proactive agency is hard-wired into the infant, like the desire for food, but the emergence of the sense of self, the inner conversation and reflexivity pass through the loop of encounters with others, in speech community.

The infant reaches out, smiles and draws adults into speech exchange, first with noises and then with words. In language, which is both shared and individualisable, the child establishes socially recognised identity and capability, while her/his mentality is patterned. Thus children learn to work with and on their own minds. 'The true development of thinking is not from the individual to the social, it is from the social to the individual', states Vygotsky. '*An interpersonal process is transformed into an intrapersonal one*. Every function in the child's cultural development appears twice, first, on the social level, and later, on the individual level' (Vygotsky, 1986, p. 36, emphasis in original; Vygotsky, 1978, p. 57). It can be argued that immersion in knowledge in higher education lifts this process to a new level.

In criticising Vygotsky, Archer (1995) states that 'our humanity is prior to our sociality and … social identity is emergent from personal identity' (p. 284). Cognitive powers are prelinguistic (Archer, 2000, p. 103). The capacity to differentiate social objects is derived from a prior capacity in making distinctions (Archer, 1995, p. 286). Yet Archer and Vygotsky are not as far apart as Archer suggests. Vygotsky's process begins and ends with individuals. There are limits to the capacity of pre-cultural infants, with their raw agential power, to talk with themselves without socially formed language from the common store. As Archer herself argues, the inner conversation arises in the distinction between personal and social self. The self is double-coded: individual agency is always socially separated *and* socially embedded.

For Vygotsky human behaviour is not simply called forth by external stimuli, nor solely governed from within (Bakhurst, 2009, p. 199). It is also mediated by externalised artefacts that prompt or modulate action – artefacts

accessed or modified by humans to change the potentials of the self. These artefacts take two primary forms: tools used to transform the natural world, and 'internally oriented' signs, 'a means of internal activity aimed at mastering oneself' (Vygotsky, 1978, p. 55). These signs include 'language, various systems for counting, mnemonic techniques, algebraic symbol systems, works of art, writing, diagrams, maps and mechanical drawings' (Vygotsky, 1981, p. 137). Knowledge and the curriculum can be added. Signs are deliberately deployed as externalised regulators to pattern the inner self. Vygotsky repeatedly emphasises the role of mediation in reflexive human agency.

> The individual actively modified the stimulus situation as part of the process of responding to it. Because this auxiliary stimulus possesses the specific function of reverse action, it transfers the psychological operation to higher and qualitatively new forms and permits humans, by the aid of extrinsic stimuli, to control their behaviour from the outside. (Vygotsky, 1978, pp. 14 and 40)

Contemporary strands of empirical psychology also bear on reflexive agency, including cognitive load theory and executive functions research (e.g. Diamond, 2013). Relevant terms include 'self-efficacy' and 'proactivity'. Self-determination theory and social cognitive theory, especially, have advanced the discussion.

Self-Determination Theory

Richard Ryan and Edward Deci use laboratory experiments and applied research to investigate self-determination, which entails will-directed autonomy under conditions of agency freedom. They identify universal desires for autonomy, competence and engagement. People are 'curious, vital and self-motivated' (Ryan and Deci, 2000, p. 68):

> At their best they are agentic and inspired, striving to learn; extend themselves; master new skills; and apply their talents responsibly. … That most people show considerable effort, agency, and commitment in their lives appears, in fact, to be more normative than exceptional, suggesting some very positive and persisting features in human nature. (Ryan & Deci, 2000, p. 68)

People behave as they do not simply in response to external stimuli but because activities are interesting and enjoyable. Self-determination theory focuses on their 'inherent growth tendencies and innate psychological needs that are the basis for their self-motivation and personality integration' (Ryan & Deci, 2000, p. 68), though the drive for self-determination is not fixed, it is accumulative and emergent. People develop capabilities and potentialities that extend the self, and engage in 'synthesis, organisation, or relative unity of both

knowledge and personality', thereby achieving 'a coherent sense of self' (Deci & Ryan, 2002, p. 3). They achieve greater capacities for self-regulation and integrity over time. They align what they learn with who they are in a reflexive process. Studies apply the self-determination idea to students' motivations and behaviours in higher education (e.g. Black & Deci, 2000; Kusurkar et al., 2013; Levesque et al., 2004).

For Ryan and Deci (2000) self-determination can flourish only 'if circumstances permit' (p. 70). Social arrangements can either facilitate or impede agency, though contextual impacts are conditioning, not determining. Ryan and Deci find that changing environments can stimulate self-consciousness. They also highlight adaptation by the unconscious as well as the conscious mind. External changes foster intrinsic motivation when they enable competence, relatedness and autonomy, provided that basic psychological needs are met, like a sense of belonging. Extrinsic drivers become 'internalised' into the self, meaning 'taking in a value or regulation' (Ryan & Deci, 2000, p. 71). When regulation aligns with personal needs and values it is 'integrated' as a motivation intrinsic to the sense of self. Here the model of outer-to-inner causality seems linear, missing Archer's insight into the open, fluctuating, uneven reciprocity between structure and agency in self-formation.

In self-determination theory internalisation and integration engage conscious agency, especially integration (Ryan & Deci, 2000, p. 72). Agency is further facilitated when people have experiences of self-efficacy. The role given to basic needs and the unconscious seems to weaken focus on the inner conversation, the deliberative will and the work of the self on the self. It also pulls self-determination towards psychology's idea of equilibrium and away from projects of the other world or other life, such as immersion in unfamiliar knowledges, or crossing geographical and linguistic-cultural borders to acquire education. However, Ryan and Deci (2002) do find that people 'seek and engage challenges in their environments' in seeking to realise the desired self (p. 8). As Bandura (2018) also argues, individuals can self-determine not only by reducing 'discrepancy' in their lives but by producing discrepancy.

Social Cognitive Theory

In Albert Bandura's social cognitive theory, agency is central and 'the most distinctive human characteristic is the capability for reflective self-consciousness' (Bandura, 1986, p. 21). As in Archer, human activity is determined by a combination of personal factors, social relations and environmental factors. In contrast with psychological theories in which behaviour is decontextualised and habitual, social cognitive theory understands activity to be 'socially situated, discriminatively contextualised, and conditionally manifested' (Bandura,

2018, p. 134) with scope to alter both one's inner (especially) and outer circumstances.

Bandura (2001) emphasises 'intentionality'. He finds that agency has three primary aspects: forethought, self-reactiveness and self-reflectiveness (Bandura, 2018, p. 130). 'Forethought' refers to the fact that people plan and adopt goals. 'Self-reactiveness' means regulating one's behaviour according to self-chosen standards. 'Self-reflective' people are 'self-examiners of their functioning'. They consider 'their efficacy to realize given challenges', the soundness of thoughts and actions, 'their values, and the meaning and morality of their pursuits'. They 'address conflicts between alternative courses of action and competing values and favour one course over another'. The 'metacognitive capability' of self-reflectiveness is 'the most distinctly human core property of agency' (p. 131).

The exercise of agency rests on the confidence that one has the capability to achieve one's objectives. This essential self-belief is affected by cognitive, motivational, affective processes, and by attitudes to risk (Bandura, 1993). It is 'the foundation of human aspiration, motivation and accomplishments'. Self-belief determines the type of goals people set for themselves, their expectation of outcomes, the strength of their commitment to their goals, and how they interpret conditions, obstacles and challenges (Bandura, 2002; Bandura, 2018, p. 133). Hence 'freedom is expanded by installing affirmative self-beliefs and altering self-impending internal standards' (Bandura, 1986, p. 41).

Bandura extends agency beyond 'spheres of activity that are personably controllable', to include 'proxy agency' exercised by other persons or institutions on their behalf – triggered by individuals, but conditioned by factors beyond their control – and 'collective agency', achieving goals by working together, pooling 'knowledge, skills and resources' (Bandura, 2018, p. 131), a point of intersection with Archer (2000, Part IV). Bandura emphasises that 'agentic factors' can be modified, and this constitutes a basis for 'effecting individual and social change' (2018, p. 134). Communication technologies expand the scope for individual and collective agency (2018, p. 134). So does education, in fostering self-formation: 'a major goal of formal education should be to equip students with the intellectual tools, self-beliefs and self-regulatory capabilities to educate themselves throughout their lifetimes' (Bandura, 1993, p. 136). Bandura also advocates large-scale community programmes designed to achieve social change by the top-down fostering of moral self-regulation.

PROTOTYPES OF SELF-FORMATION IN EDUCATION

There are roots of higher education as self-formation at both ends of Eurasia, and in North America. Autonomy, reflexive agency, the will to learn and

knowledge are present, though learning is often understood as other-formation. There are some differences between the Anglo-European and Chinese civilisational traditions, which diverge in their various configurations of individual/society (Marginson & Yang, 2022; see also Chapter 7).

Confucian Self-Cultivation and the Will to Learn

Weiming Tu (2013) states that 'the great strength of modern East Asia is its … self-definition as a learning civilization'. This is 'the most precious legacy of Confucian humanism' (p. 334). For Guoping Zhao and Zongyi Deng (2016), 'person-making is at the heart of the Confucian heritage of educational thinking'. In this heritage 'it has long been held that self-cultivation is the precondition' for developing 'the critical and creative potential of the individual and enabling him or her to fulfil social responsibilities and functions' (pp. 2–3). Zhao and Biesta (2011) state that the Confucian self is not a finished entity but is always becoming. The Confucian learner is engaged in a continuing and never finished process of self-perfection (p. 13), not just in formal education but in social relations (p. 3). Self-perfection includes how to conduct oneself. 'Confucianism presents a view of identity and the self that is explicitly informed by moral and ethical dimensions' (p. 9).

In Confucian tradition 'learning is the most important thing in life, it is life's purpose' (Li, 2012, p. 14). Knowledge is essential not so much as a source of utilitarian benefits, though these are important, but as a means of self-cultivation in the journey towards perfection. Knowledge is an artefact in Vygotsky's sense, a medium for working on oneself in the reflexive processes of self-monitoring, self-criticism and improvement. Both breadth and depth of knowledge are important. The Chinese civilisational approach also emphasises the contribution of knowledge to society (Hayhoe & Liu, 2010; Li, 2003, p. 265).

Education is seen as potentially universal to the population, as argued by Mencius. Though individual abilities are unevenly distributed, all can learn and succeed through hard work. The drive to learn is inculcated from a very early age. 'The starting point for Chinese people's learning affect is establishing one's will (*lizhi*), commitment to learning' (Li, 2012, p. 163) with the whole 'heart and mind' (p. 164), often by the age of six or seven years and primarily in the home not the school. Young children learn that 'seeking knowledge requires resolve, diligence, endurance of hardship, steadfastness, concentration, and humility' (p. 14). The concept of *hao-xue-xin* (passion for learning) becomes well understood by nearly all Chinese learners. Li (2003) finds that when compared to US college students, Chinese students exhibit a stronger 'directive force' in relation to learning tasks (pp. 258, 261–262).

'Autonomy and personal agency' are integral to Sinic learning (Li, 2012, p. 132). The Confucian *Analects* establish a clear space for the individual in moral self-cultivation. Li (2006, p. 483) cites Saari (1990), in whose studies Chinese children 'developed an "inner self" in order to retain a private space of their own', as Archer suggests. But the autonomous individual is firmly contained in society. She/he is nested in the successively larger settings of family, local community, state/society and *tianxia*, all under heaven, as discussed in Chapter 7. The Sinic term *ren* (loosely, 'humanity') is at the heart of Sinic self-formation and *ren* exists in relationships. *Ren* combines the words for 'two' and 'human being'.

For Qi Sun (2008) the Confucian view of self has three aspects: the 'I' undivided with the universe, the 'I' in unity with other humans and the wholeness of 'I' with self that enables the reflexive work of self on self (Zhao & Biesta, 2011, p. 11). Education requires reflexivity in relation to each of these relationships. There is direct, unrefracted reflexivity, the work of self on self. There is also reflexivity that is refracted, in two ways: via personal relationships, and via engagement in the world as a whole, *tianxia*, which in its largest sense embodies a commitment to the good of all, the global common good (Zhao, 2021).

This commitment includes passing on one's learning: the more one learns, the more one can contribute to others by teaching. Self-cultivation in higher education also serves the state. The Imperial Dynasties channelled self-cultivation into training in official academies and selection for the state bureaucracy. Confucianism places more emphasis on effective freedom and agency freedom than on freedom as control, which is the main aspect of freedom discussed in Euro-American countries, where independence from the state is a central trope (see Chapter 7). The state is more favourably viewed in East Asia. This is not to say that autonomous freedom or individuality are diminished. Rather, the individual is positioned in a different manner in relation to the social. (The idea of state and individual as zero-sum in relations of power is itself a Western idea.) Perhaps more than Archer, Confucianism distinguishes between free will, *zhi*, the inner self of moral autonomy, and the outer social self. Persons must refrain from enacting their will if there are negative social consequences. Self-determination is absolute but self-realisation is not. Practising free will is not seen as an absolute right but as a good thing among good things (Chan, 2013).

As in Imperial times, higher education is a source of status. 'Ideas regarding status do not contradict seeking self-perfection and contributing to society because learning is seen not only as an individual process but also as a social process' (Li, 2003, p. 264). However, much depends on the social values in which self-cultivation is nested. Zhao and Deng (2016) ask whether universities in China have retained the classical commitment to holistic person-forming

or have collapsed into economic utility and credentials not learning content (pp. 2–3). Rui Yang (2017) makes a similar point. Parallel questions arise in Euro-America.

Bildung, Kant and Self-Liberation

The closest Euro-American equivalent to Confucian learning is the Enlightenment philosophy of *Bildung*. One translation of the German '*Bildung*' is 'self-formation'. Others are 'development' and 'inner cultivation' (Siljander & Sutinen, 2012, p. 2; Taylor, 2017, p. 421). Self-formation in Kant's idea of Enlightenment is 'man's release from his self-incurred tutelage through the exercise of his own understanding … without direction from another' (Kant, 1784/1992, p. 90). In *Bildung* individual autonomy is both the medium and means of the development of the person and a prized outcome of the process.

Bildung does not occur by itself. Kant sees education as 'the crucial element for evolving humanity, which takes its place in every individual, but also on the collective level' (Kivela, 2012, pp. 59–60). Through education humans develop their 'rational capacities so that they became capable of independent judgment', which is 'the basis for agentic and autonomous action' (Biesta & Tedder, 2007, p. 133). The Kantian aim of education is an active autonomous rational subject who 'lives in the public sphere among other individual beings' and uses reason in a public way (Kivela, 2012, p. 59). Education forms citizens for emergent civil society (Biesta, 2002a, p. 345). Through particular knowledge in local settings, students come to understand the general and enduring (Biesta, 2002b, p. 379). The universal curriculum of *Bildung* also promises escape from the limiting effects of social background.

Bildung resembles Confucian self-cultivation as a holistic project in which systematic learning practices and learned reflexivity are joined to a strong moral dimension. Kant notes the paradox in forming learners to form themselves – how can we cultivate freedom by coercion? (Kivela, 2012, p. 68) – though the dilemma is reduced at higher education stage. In contrast with Confucianism, in *Bildung* agency freedom is prior to society (Taylor, 2017, p. 423); and society is civil society, not the state. Kant wants people to learn to think independently without guidance from the authorities (Kivela, 2012, p. 59). *Bildung* promises liberation from power structures, a meaning endorsed by Foucault (2010) in his commentary on Kant (p. 26). Foucault's work of the self on the self resonates with *Bildung*, as he notes (Foucault, 2005, p. 61). It also coincides with Confucian self-cultivation, which he does not mention.

Nevertheless, as with Confucianism in China, the original self-formation in *Bildung* was turned to nation-building and the education of the national elite. Wilhelm von Humboldt's blueprint for the University of Berlin was a formative curriculum broad and deep, grounded in history, classical languages and

literature, linguistics, science and research. Von Humboldt also placed the university wholly at the service of the state, albeit with institutional autonomy and the freedom to learn and to teach. Across the world academics defend their control freedom by invoking the Humboldtian university (Siljander & Sutinen, 2012, p. 15); though with less attention to *Lernfreiheit*, the agency freedom of the self-forming student.

Like the Confucian idea *Bildung* implies a process of becoming, and the open-ended evolution of human potential, in which perfection is never achieved, rather than static measures of skills and knowledge. Teaching and learning cannot be exhaustively defined in terms of cause and effect. *Bildung* opens new horizons as it proceeds, there is an 'an open independent space' separate from teaching and the educability of the self-forming learner continually expands (Siljander, 2012, pp. 94, 96). *Bildung*'s vision of educational subjects who are shaped by context but have agency, and develop themselves while taking educated citizenship to the world, retains influence, though contemporary advocates emphasise, more than before, practices that respect difference and diversity (Taylor, 2017).

Dewey and the Pragmatists

The American pragmatists, including John Dewey and G.H. Mead, agreed with exponents of *Bildung* that education's purpose was the formation of the free autonomous self and this would contribute to social formation. Arguably Dewey's *Democracy and Education* (1916) is a theory of *Bildung*, especially where he explores self-discipline. The pragmatists gave self-formation their own twist. Their category was 'growth'. They saw education as proceeding via inquiry and experience, in natural and cultural environments, through shared language, learned reflexivity and harmony with the environmental settings (Vakeva, 2012). Learning in experience and nature, and lifelong growth, also resonate with the Confucian tradition.

Mead like Vygotsky sees individual self-formation as taking place within social exchange via language. Individuals create shared meanings or solve problems, triggering reflection (Biesta, 2012, p. 248; Siljander & Sutinen, 2012, pp. 6, 11, 16). Mead's conception of the self is critiqued by Archer (2003) as 'over-social' in that the truly private domain is emptied out from the inner conversation (pp. 78–92). It seems more plausible to argue that both self-to-social-to-self and self-to-self reflexivities are possible, and the role of language can vary. Kettle's (2005) interview subject, a Thai student in Australia, believed his effective agency did not exist until he learned to communicate and interact effectively with local persons.

The three prototypes incorporate most but not all of higher education as self-formation. Each of Confucian learning, *Bildung* and the pragmatists

include immersion in knowledge, autonomous reflexivity and the work of the self on the self. The will to learn is emphasised more strongly in Confucianism than *Bildung* and pragmatism (Hayhoe, 2017, p. 7; Li, 2003, p. 263). Arguably, all three place insufficient emphasis on autonomous agency, leaving the door open to other-formation. All three schools of thought agree that higher education should be designed in terms of social norms. The weaker notion of autonomy also limits the scope for creative reflexivity. Nevertheless, *Bildung*'s central goal is autonomous persons, and recent interpretations of pragmatism have partly shifted the balance from teacher activity to self-regulation by the self-forming learner (Kivela et al., 2012, p. 308).

The three traditions differ on the degree to which individual formation is heterogenous in relation to social formation, in Archer's sense of analytical dualism. The Confucian notion is the most radical in developing the reflexive will, but also the most conservative, in that it is least likely to imagine an emergent individual agency separable from society (*Bildung*, also, is often seen as contained within social reproduction). Foucault's idea of a self that regulates its own social embeddedness, from the Cynics, takes learner autonomy further.

HIGHER EDUCATION

People form themselves at work and in community organisations, through social media and other conversation, in consumption, bodybuilding, fitness, diet, personal relations and many other ways. What is distinctive about student self-formation in higher education? Arguably, this lies in three domains. First, it occurs in formal institutions and is conditioned by policy, administration and services as well as classrooms. Second, the role of teaching. Third, student self-formation takes place through immersion in knowledge.

Though there is much research on student learning and engagement, it rarely connects directly to student self-formation. Investigation of self-formation requires fine-grained studies of change over time at the individual level, in which self-consciousness, projects and reflexivity are tracked, the exchange between self and environment is explored, and the open-ended, multiple potentials of self-formation are acknowledged. Most research is not like this. Nevertheless, there are useful insights in various research programmes.

Student Learning and Development

Research on student approaches to learning contrasts deep and surface learning (Biggs, 2011; Entwistle & Ramsden, 2015). Surface learning, for example memorisation strategies, is seen as extrinsically driven. Deep learning is agential. Learners are intrinsically motivated to immerse themselves in contents. They critically examine new knowledge, relate it to previous learning and

monitor themselves during learning. A weakness of the surface/deep dualism (Case & Marshall, 2009) is that surface learning can be agentically driven.

Studies of college student development do incorporate longitudinal perspectives. The student experience is modelled as a developmental journey towards greater autonomy, self-awareness, reflexivity and self-control (Pascarella & Terenzini, 2005). The idea of self-consciousness as part of student development emerged early (Chickering, 1969). Baxter Magolda (2008) positions reflexivity at the centre, as process and outcome. She describes 'self-authorship', 'the internal capacity to define one's beliefs, identity and social relations' (p. 269). The student moves from reliance on external sources for self-definition and decision-making, to internal regulation. For Astin (1984), development is conditioned by institution-provided resources, an influential approach that suggests purchase for strategy. Much of the discussion focuses generically on learning rather than being discipline specific.

Most studies of student development use linear models and look for homogeneous patterns in large groups of learners, thereby enabling large scale data analysis (Pascarella & Terenzini, 2005). Students are seen as other-formed by environments, institutions and teaching. Proactive agential responses are underplayed. It is as if common external conditions are expected to trigger predictable and relatively uniform student behaviours. The variety of inner conversations, and the diversity of students' life projects, shaped by the self-determining students themselves, is missed. The will to learn ('motivation') and autonomy itself are seen as implanted from outside, invoking the Kantian paradox, though students in higher education are not children.

Immersion in Knowledge

Knowledges are shared property, collective systems of signs, configured like languages. Immersion in knowledge replicates the infant process of self-formation, in which the sense of self is nurtured in speech community, triggering the first self-awareness (Vygotsky, 1978). However, in self-formation in higher education the student engages with knowledge not instinctively but consciously. Ashwin et al. (2014) cite Dubet (2000) who states that 'students "form" themselves through the meaning they attribute to knowledge' (p. 222). Like other Vygotskian artefacts, knowledges are both external to persons and deployed by them as an internal regulator through 'reverse action'. People use knowledge to transform themselves and their capacity to respond to (and perhaps shape) their environments. Knowledge mediates between Archer's continuous inner self and the wider world.

Disciplines are powerful knowledges. They can transform the inner self and its conversations and build new capabilities in social intervention. Immersion in knowledges provides open-ended tools (knowledge has no limits) for

appropriation of reality, exchange with others and the formation of mediating artefacts. The provision of access to these knowledges is a primary contribution of higher education. Teaching is indispensable because it brings students to the disciplines which are, as Foucault states, forms of the 'other world' or the 'other life', mediums for the endless creative work of the self on the self.

Students do not know the disciplines until they engage with them in depth. Only teachers know what is needed. Fully self-determining choice within a learning programme not wholly known to the students does not strengthen agentic formation, it undermines it.

The role of knowledge in self-formation cannot be understood in solely generic terms. For Bernstein (2000) the disciplines foster differing kinds of reflexive consciousness that shape 'who we are, who we think we can become and what we think we can do' (McLean et al., 2013, p. 265). Maton (2013) argues that some knowledges are abstract and 'epistemic' in form; others foreground social values and self-identity. Disciplines, and concepts within them, can also have varying meanings in different cultural contexts. All of these variations modulate the effects of disciplines when they are used as artefacts in self-transformation.

There are numerous studies of learning in specific disciplines. Only one will be mentioned. Research by Ashwin et al. (2014) investigates student learning in sociology. This 'illustrates the crucial role that students' relations to knowledge play in understanding the transformative nature of higher education' (p. 219). The focuses of the study are on what is learned, how the discipline is understood and how students are 'transformed by higher education' (p. 231), rather than on how students use higher education to transform themselves. However, the research uses a longitudinal approach and unearths findings that are suggestive in relation to self-formation. The students' accounts of sociology change over time. Their growing reflexivity in relation to the discipline is apparent, and they become more confident in their accounts of the world via the medium of the discipline.

Students move from seeing sociology as issues or topics separated from themselves; to a relational whole that constitutes a way of understanding the world and includes the learner; to a partial relational whole that provides different ways to understand the world and includes the learner (Ashwin et al., 2014, pp. 224–229). The student joins to the discipline with an abstract sense of it and moves to a nuanced understanding of specific ways it can change the self. As one interviewee puts it: 'It [sociology] does a good job to create the awareness that you may need to develop on further or to continue building on' (p. 227). The study also shows that some students do not immerse themselves in sociological knowledge, others do but then disinvest (e.g. p. 229), and the majority of those interviewed stop short of full self-transformation. 'Students' engagement with knowledge is not a sufficient condition for this transforma-

tion and … there also needs to be an alignment between students' personal projects and the focus of disciplinary knowledge' (p. 231).

Active subjects who shape their lives are 'project makers' (Archer, 2003, pp. 115–116). The task of teachers and institutions is not just to provide resources but to persuade students to join their project making – including themselves as project – to the curriculum.

Projects and Modes of Self-Formation

Higher education is open-ended growth in which the ultimate outcomes are largely hidden. Most self-formation does not involve deliberative planning and is an end in itself. There are many ways that students expand themselves beyond the classroom, multiple projects with heterogeneous values (Klemencic, 2015). Some engage intensively in cultural activity, or social activism, or student politics or global problems. Many are 'finding themselves' in the student years, which suggests advanced and intensive reflexivity (Marginson, 2014). Self-making can constitute any and all of immediate gratification, identity or self-investment.

Projects have differing temporalities and time lags. Some students love their subjects and find knowledge as an end in itself; others are absorbed by extracurricular projects the same way. Yet while those studying mentally expanding liberal disciplines may have shelved the question of where they are going, work after graduation has been postponed, not abolished. Others consciously use the years of study to augment their reflexive agency with professional competences, organisational experiences and social networks for later use.

What circumstances trigger or favour self-formation? A strong finding of research on international student agency is that cross-border mobility is associated with concentrated student self-formation (Marginson, 2014; Montgomery, 2010; Tran, 2016). Cross-cultural international students, negotiating plural identities, experience accelerated academic learning and, often, profound transformation of outlook. Far from being people in deficit in the host country, most international students are strong agents piloting their lives, albeit with difficulty in conditions not under their control. Their reflexivity is worked hard.

These experiences of international students might be paralleled in other forms of mobility, including school to work transition; students who are first in family to enter higher education; and those moving from rural and remote locations to large city universities. It may be that this kind of intensive transformation is the largest single social contribution that higher education makes. Perhaps the primary implication of higher education as self-formation is the need to find ways to bring deep transformation in reach of all students.

CONCLUSIONS

Learned self-formation and individual agency are the means by which graduates achieve other outcomes – the larger social respect and earning power that graduates command; their capacity to navigate careers and labour markets, and to deal with government and organisations; the potentials for and in social, geographic, cultural and temporal mobility; the enhanced understanding of the world, culture and people. Some of these qualities can be measured directly, or through proxies, and are attested by research on the outcomes of higher education (e.g. McMahon, 2009; OECD, 2015). However, strictly speaking, careers, earnings, respect and enhanced mobility are not direct outcomes of higher education itself. The contribution of higher education *itself* is the production and augmentation of the *reflexive autonomous agency of* graduates which makes these outcomes possible. Reflexive agency does not produce or guarantee those outcomes – for example, social background, the labour markets and contingency, all affect employability – but it helps them to happen.

Higher education as self-formation is not well understood in government and public debate. It is missing from economic policy discussion. This focuses on graduate-as-other and graduate-as-object, for example when graduate outcomes are defined by human capital values such as earnings. This does not address the educational mission and its outcomes in persons. The main purpose of higher education is not someone else's profit, or even graduate profit. Graduates are not defined by their economic value. The purpose of higher education lies in the graduate-as-subject, and graduates themselves define its value. Because graduates use what they have learned in higher education to form themselves in later life, the process has no necessary limit. Higher education is an output maximiser.

The economic imaginary, the transformation of nature and time into transferrable abstract value, under conditions of scarcity, cannot comprehend any of this. It does not grasp autonomy, reflexivity, transformation via knowledge or open-ended potentials. While higher education, like many processes, is readily represented as an economy, the economic imaginary is not fitted for *making* higher education. It is fitted for regulating it from outside.

Higher education as self-formation is the answer to the pervasive utilitarianism and credentialism that limits people's imaginings about higher education, restricting what governments expect, students expect and higher education routinely offers. It does not reduce the contributions of higher education. On the contrary, it has the potential to greatly expand those contributions. Reflexive agency through immersion in knowledge is the source of all of the 'uses' of graduates, all of the social and economic functions and activities that they carry out, from first graduate job to the end of their lives. The more

developed is the agency freedom of graduates, the more that they have to offer, in every sphere.

Higher education as self-formation is the best response to the economism of neo-liberalism, the subordination of education to an external system of valuation based on capitalist economics. Higher education cannot create a profitable economy directly. What it does is help to form people who can do many things, including the creation of economic value. To those who argue that higher education should focus on employability the answer is this. Graduates maximise their own employability when they have enhanced personal agency, permeated by knowledge and sustained by the capacity to continually learn and develop themselves reflexively. All of the 'generic' skills – flexibility and adaptability, initiative, communication, working in teams, creativity and lateral thinking – are skills of the self-forming reflexive person with agency freedom. These skills are real, except they are not solely generic. They are acquired through immersion in knowledge and never content free or context free. The creativity of the mathematician, the engineer, the linguist and the lawyer all entail creation, but the imaginings, discourses and applications are distinct.

Like all large ideas, such as equality of opportunity, higher education as student self-formation is both a norm to pursue and a living reality. By no means all existing students achieve it. Many people remain outside higher education. This mission is always incomplete. Yet it is often achieved, and it is both necessary and sufficient to higher education.

Student agency does not evolve in a vacuum and its potentials are constantly intersected by factors external to the self, especially relations of power. Concentrations of capital, hierarchy, inequality, poverty, discrimination and racism are obstacles to effective freedom and retard agency freedom. Yet social structures are partly open. Agents, severally or collectively, cannot necessarily overcome structure, but they can work on themselves, and in that manner shape the agency/structure relation. Higher education cannot overcome economic and social inequalities by itself – it cannot redistribute incomes and wealth – but it can provide people with tools for more effectively coping with and surmounting inequality.

Clegg (2011) argues that for disadvantaged persons the way through is *always* agency. This underlines the need to place an empowering higher education, a higher education immersed in knowledge and fostering critical reflexivity in ongoing self-transformation, in reach of all. Higher education systems that exclude parts of the population, or are so stratified as to empty out powerful knowledge from lower tier institutions, are regressive.

Should higher education address structural constraints by shaping the self-formation of students in terms of prescriptions for the better society? Confucianism and *Bildung* say 'yes'. But which ideal society, and who decides? These classical pedagogical traditions have the essence of higher

education right: the self-evolution of persons via immersion in knowledge. In that respect Confucianism and *Bildung*, and even J.H. Newman (1852/1982) are more advanced, more modern than the economic imaginary in higher education. Yet Confucianism, *Bildung* and Newman now seem to underestimate learner autonomy and the scope for will-bearing reflexivity in students. They are doctrinal, seeing education as an induction into societies with pre-given values. Students need teachers, and a curriculum, because students are mostly neophytes in the knowledge in which they are immersed. Yet students in higher education are also adults, with a will. They are not educational objects but subjects, and they will make the world as they wish. Rather than trying to control the future society that will be formed by students after they become graduates, higher education should enhance their scope to make their lives, and society, as they determine.

ACKNOWLEDGEMENTS

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PART II

Global contributions and comparisons

5. Higher education, science and the climate crisis

Johanna Witte

INTRODUCTION

As the German science historian Renn (2019) puts it, 'historically, science was a rather marginal activity of human societies. Today, the future of humankind depends also on its insights and offers for solutions'. This is because humankind has started to change the planet 'with irreversible consequences' (Renn, 2020, p. 4) and at an unprecedented speed which has led leading geologists to suggest the term 'Anthropocene' for the epoch we are in (Crutzen, 2002). The term highlights how decisive and irreversible human impact has become for the (eco-)geological development of the earth (Renn, 2020: p. 4–6).

The Anthropocene has catapulted the higher education and science systems into a pivotal and complex position, as higher education and science have been both drivers of those technical and economic developments that are currently bringing several subsystems of our planet to the edge of collapse, and the Cassandra warning of their effects.

The latest International Panel on Climate Change (IPCC) assessment highlights that the target formulated in the Paris Agreement of limiting global temperature rise to 1.5 to 2 degrees could in fact only be kept if mankind immediately stopped carbon dioxide emissions. On the current trajectory, a temperature increase of 3.5 degrees seems the more likely scenario, and it could easily become more, with dramatic consequences for the habitability of this planet (IPCC, 2021). The challenges of preventing further global warming and dealing with the effects of climate change already taking place thus have to be handled in parallel.

According to Rockström et al. (2009, p. 472), the boundaries marking a 'safe operating space for humanity' have already been passed in three out of nine planetary subsystems (biodiversity, the nitrogen cycle and climate change), the loss of biodiversity and human interference in the nitrogen cycle being even more severe than the climate problem. Besides climate change,

there are thus other pressing and related ecological problems that represent similar challenges for collective change of behaviour (IPBES, 2019).

The severity of the situation is clear, the potentially huge role of universities in leading the needed transformation of our civilisation has been widely acknowledged. Recently, the chief of the United Nations, António Guterres, has expressed the view that 'the contributions of universities are essential' to combating climate change (University World News, 2020). What makes it so difficult for higher education and science to live up to their potential and fully assume their responsibility following from their own insights?

This chapter seeks to provide an overview of the contributions higher education and science make to tackling the climate crisis and to offer some thoughts on the potentials and difficulties of the sector in fully playing its role. The chapter starts with theoretical considerations, drawing on Marginson's (2020) ideas on public and common goods, Renn's (2020) work on the social embeddedness of science and science's responsibility, and Rosa's (2015) concept of social acceleration. The chapter then presents the different dimensions in which higher education and science are related to the climate crisis: (1) research, (2) education, (3) third mission and public debate, (4) consumption and campus management and (5) the contributions of various actors such as heads of institutions, academics, students, self-governing bodies, governments and rankings.

The chapter proposes a starting point for an internationally comparative, empirical exercise mapping where different countries stand with respect to the different ways in which higher education and science impact upon and are affected by the climate crisis,[1] and commences this endeavour by using illustrative examples, mainly from the German experience, but also some from other countries (for a more encompassing German case study see Leal Filho, 2021). The chapter is written from a European perspective and does not claim to provide an adequate global assessment of the issue. Higher education and science have both similar and different roles across countries in relation to the state and civil society. This influences the role higher education and science (can) assume with respect to the climate crisis in different systems.

The chapter concludes by asking what has been achieved by higher education and science with respect to the climate crisis, what are the strengths and weaknesses of the sector and what else could be done to improve the sector's contribution to tackling the climate crisis.

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[1]   See McCowan (2020) for a similar endeavour developed in parallel to this chapter and published in November 2020. I thank Simon Marginson, Brendan Cantwell, Anna Smolentseva and Daria Platonova for their helpful comments. All remaining deficiencies are of course mine.

THEORETICAL DEPARTURE POINTS

Common Goods in Relation to Higher Education, Science and the Climate Crisis

A stable world climate is a typical example of a common good as defined by Locatelli and Marginson (see Chapter 10) with the associated problems of over-use of resources and lacking incentives for individual restraint and renunciation. Depletion of this good is felt as global warming. The shared governance is complicated by the sheer scale of this good, encompassing the entire earth. Further complicating factors are the marginal contribution made by every individual and even by most states towards its depletion (e.g. Germany contributes about 2 per cent to global carbon dioxide emissions), the complexity of the causal effects leading to climate change, the time lag with which the consequences occur and the uncertainty where and when exactly concrete disasters will take place. The strong incentives – both individual and systemic – for carrying on as we are used to add to the problem.

Global science is another global common good, or collective global good as framed by Marginson (2019). Sharing this quality with world climate, global science is in a pivotal position to speak truth to power and overcome the boundaries of limited individual and national self-interest. Climate change is thus an area where the potential of global science to function as a 'world mind' (Marginson, 2020) is much needed. The avenues and limitations for fulfilling this function are explored in this chapter.

Social Embeddedness of Higher Education and Science

Universities have an ambiguous role: they help tackling the climate crisis, but they also contribute to it. The awareness of that led Renn (2020) to call for 'rethinking science for the Anthropocene'. Higher education and science have played a fundamental role in contributing to this crisis by providing the cornerstones for the industrial revolution and ever continuing economic progress. In conjunction with the economic system, scientific progress has in the past translated into more pressure on the resources of planet earth. Over centuries science has promoted the ideas of humankind as entitled to rule and exploit nature and of never-ending scientific progress being able to solve all problems.

At the same time, higher education and research institutions, as well as the actors within them, are deeply embedded into the very economic, political, societal and technical systems that are in turn altered by their outputs (see McCowan [2020] for a similar approach; McCowan [2019] for a more encompassing theoretical framework on the general interactions of higher education

and society; Shields [2019]). They are themselves subsystems of the very society that is trapped in the social and economic acceleration mechanisms that have produced the climate crisis. Not least, they contribute to global warming by producing emissions (McCowan, 2021). Critical self-examination is thus part of higher education's adequate response to the climate crisis, especially when acting as change agents, and a prerequisite for contributing more to the solution than to the problem.They are themselves subsystems of the very society that is trapped in the social and economic acceleration mechanisms that have produced the climate crisis. Not least, they contribute to global warming by producing emissions (McCowan, 2021). Critical self-examination is thus part of higher education's adequate response to the climate crisis, especially when acting as change agents, and a prerequisite for contributing more to the solution than to the problem.

Social Acceleration in Higher Education and Science

The German sociologist Hartmut Rosa (2015) coined the term 'social acceleration' – a fundamental change in the temporal structure of society that makes for the shift from modernity, with its golden promise of the progress which will make our lives easier, to postmodernity, marked by the paradox that we have to run faster only to stand still, that is, to maintain our competitive position. Three categories of change contribute to that: technological acceleration, the acceleration of social change and acceleration in the pace of life. As long as social and economic activity and resource use are not completely decoupled social acceleration will imply acceleration of resource use – and, through a wide range of mechanisms, of climate change.

Rosa argues that social acceleration leads to the 'shrinking of the present', which implies that individuals find it increasingly futile to care about the future, make plans for it and thus to assume responsibility for the consequences of today's actions, which results in widespread cynicism. It also implies that we are trapped in a disastrous feedback loop, self-reinforcing mechanisms of global warming.

Most importantly, it is difficult for science and higher education to fulfil their role as correctives of these developments as they are themselves victims of the same mechanisms: digitisation, cost-effectiveness and efficiency pressures, the design of research funding schemes, developments in the publication sector, publication criteria linked to academic careers, widespread precariousness of academic careers, changing perceptions due to curriculum reforms in the Bologna context, pressures towards closer labour-market coupling of programmes, etc. All these contribute to a 'hamster wheel' feeling of academics and students. The logic and design of research funding which often preclude open-ended curiosity-driven research and submit research to a strict

time regime make it difficult to come up with solutions beyond the already imaginable.

THE CONTRIBUTIONS OF HIGHER EDUCATION AND SCIENCE

We will now look into the different functions of higher education and science and their contributions in the different fields in relation to the climate crisis, given the above limitations: (1) research, (2) education, (3) third mission and public debate, (4) consumption and campus management, (5) the roles of different actors in making these contributions.

Research

I variably use the term research instead of science as the latter tends to be associated mainly with natural science, but not only natural sciences contribute to understanding, tackling and preventing climate change. I refer not only to higher education, but also to the science system, because not in all countries are research and science exclusively performed by the higher education sector (e.g. the Max Planck and Helmholtz institutes in Germany).

Science and research make three major contributions towards tackling the climate crisis:

- measuring and understanding climate change and thus providing the empirical basis for policy decisions and political action;
- developing climate-friendly technologies and economic and social models that allow humankind to limit global climate change to bearable levels (mitigation);
- developing coping and adjustment strategies helping humankind to deal with climate change, both current and future (adaptation) (Alves et al., 2020).

The terms 'climate science' or 'climate research' are used to encompass all three of them (Overland & Sovacool, 2020; Scholes et al., 2021) and to include the contributions of social sciences and humanities. I will briefly discuss all three.

Measuring and explaining climate change

It is in the higher education and science system that climate change is measured and understood. The scientific facts it produces are the basis for any political action to steer the patterns of humankind's activities such that they affect less upon the climate, notably the international agreements under the

United Nations Framework Convention on Climate Change (UNFCCC). To provide this reliable evidence is a challenging task. The ecosystem is highly complex, interactive and dynamic and the climate forecasts depend on assumptions, meaning that with progressing human impact and increasing knowledge and understanding of interdependencies, calculations have to be updated. As the political consequences depend crucially on what science says is needed to stabilise the world climate, scientific research in this area is particularly contested.

Science thus pools resources internationally and across disciplines to increase the dependability and credibility of its results. More fundamentally, it is because the quest for truth is at the heart of scientific activity, academic dispute and diversity of voices are essential for seriously maintaining this quest. It is a challenge for science communication to convey to the general public that disputed and changing scientific results are not a sign of the unreliability of science, but in fact a crucial contribution towards it.

Mitigation

An important task for science is to develop climate-friendly technologies. While some believe in a mainly technological set of solutions that will allow humankind to maintain and increase further economic activity levels and living standards while achieving climate neutrality, it becomes increasingly clear that a more transformative approach is needed, including alternative behaviour patterns (Ferrer-Balas et al., 2010). This involves new ways of organising and conducting mobility, production and consumption, energy, land and resource use, the spatial organisation of human civilisation, work-life balance, distribution, etc. The task for the science system is to lead and accompany the social and economic transformation towards climate neutrality (Renn, 2020).

This means that the entire spectrum of academic disciplines is called upon to develop new models. It is up to economics to provide the economic concepts and models for the needed change of paradigm, to business administration to accompany the implementation and spread knowledge of successful business models, to the social sciences and humanities to feed in the philosophical orientation, discursive impulses for and empirical understanding of the conditions for cultural change.

The acknowledgement of the important contributions of various disciplines has changed the composition of researchers in the IPCC working groups II and III to include more researchers beyond science in the narrow sense (Scholes et al., 2021, p. 42). Mastering these challenges does not only require inter- and transdisciplinary academic cooperation and a global pooling and integration of perspectives and resources, but also close cooperation with civil society (Overland & Sovacool, 2020; Scholes et al., 2021) (see the section on the third mission in this chapter).

Adaptation
A third central task is to investigate the social, economic, political and geo-political consequences of both climate change that is already taking place and expected further climate change – and thus contribute to coping strategies for society. This includes how to deal with a higher incidence of extreme weather events, increasing conflicts over scarce resources, climate-induced migration, consequences for public health and adapting agriculture and forestry to the changing climate conditions, etc. Past targets for limiting global warming have not been met, and even in the rather unlikely case that the current target of the Paris Agreement of limiting global warming to 2 degrees is kept, this increase will not be without severe consequences, so that profound adaptation of human civilisation to the new circumstances will be needed (DKK, 2021). Societies will have to learn to deal with loss at different levels at an unprecedented scale: loss of material values such as land and housing, loss of biodiversity and agri-cultural fertility, loss of security and certainty. These losses have economic, political, mental and practical dimensions (Elliott, 2018).

Climate science and the global governance of the climate crisis
The three aspects of climate science – scientific assessment, adaptation and mitigation – are reflected in the three working groups of the IPCC (Scholes et al., 2021). These working groups serve as a main hinge between global science and multilateral governance of the climate crisis (Scholes et al., 2021). They are the major basis for multilateral agreements in the context of the UNFCCC, such as the 2015 Paris Agreement. For the IPCC special report 2018, 86 authors from 39 countries contributed directly, most of them from universities, building on the work of a much larger number of researchers (IPCC, 2018) and in fact the collective effort of scientists from all over the world over years before the Paris Agreement (Scholes et al., 2021). The composition of the IPCC working groups has been an issue of debate in order to ensure adequate representation of scientists from various parts of the world and developing countries (Sapiains et al., 2021; Scholes et al., 2021) as well as disciplinary participation.

Potentially, the meta studies emerging from these working groups play the role of awakening calls towards humankind making important contributions to creating and feeding a 'world public sphere' (Marginson, 2020). However, how these published findings are received, how they translate into interna-tional agreements and then feed into national policies is far from trivial and far from satisfactory.

Climate research funding
Overall funding for climate science is not high. A total of USD 40.6 billion global spending on climate science spread over 1990 to 2018 (i.e. 1.45 billion

per year) is appallingly little compared to the costs of 'global annual damages from climate change' that 'have already surpassed USD 10 to 40 billion from storm surge alone and could surpass USD 100 trillion over the next 80 years' (Hinkel et al., 2014 cited in Overland & Sovacool, 2020, p. 3). It comprises between 2.4 and 4.6 per cent of total research (Overland & Sovacool, 2020).

The funding for climate science is largely national. The main donors are the UK (2.1 bn), followed by the US (1.8 bn), Germany (1.7 bn) and France (1.6 bn). The main funding organisation in the field is the European Commission (2.6 bn), followed at large distance by the US National Science Foundation (0.46 bn), the UK Engineering and Physical Sciences Research Council (0.38 bn) and the Research Council of Norway (0.36 bn) (Overland & Sovacool, 2020). Europe and the UK invest much higher sums into climate science than the US. Donors outside of Europe and the US are neither to be found among the first ten major countries nor the first ten organisations (see also US study by Hook et al., 2017).

Only about 10.3 per cent of climate research funding went to the social sciences, and only 5.21 per cent of climate research funding went into social science research on mitigation of climate change, which is 0.12 per cent of all research funding. Climate science funding still seems to work on the assumption that if only climate change is better understood, humankind will be able to address the problem (Hook et al., 2017).

Education

Curriculum development

Education in relation to the climate crisis can also be distinguished into education for (a) knowledge and awareness of facts, (b) behaviour change and (c) coping strategies (corresponding with the three dimensions scientific assessment, adaptation and mitigation). How these aspects are reflected in the education programmes varies enormously with national educational traditions, curricular models and the scope of professors, heads of higher education institutions – and sometimes sectoral self-governing bodies – to determine curricula.

In higher education systems with a generalist undergraduate education and a comparatively strong role for university leadership as in the US (and to some extent in Australia), it is relatively easy to formulate overarching aims for the education programmes of entire institutions and implement compulsory modules or attractive electives. In countries with more disciplinary-led traditions and a higher degree of specialisation in undergraduate education such as in France and Germany, it can be more challenging. At the same time, the power of bottom-up initiatives in such cultures where freedom of research and teaching is perceived as decentralised academic self-governance should not be

underestimated. Every disciplinary field has something to contribute and it is only natural that research conducted in a field is mirrored in the curriculum.

Specialised education programmes relating to climate issues have been spreading. Examples range from a Master's degree in 'Climate Change Management' at Weihenstephan-Triesdorf University of Applied Sciences in Germany for graduates in the fields of forestry, agriculture and landscape planning to a 'Climate Science Minor' offered at UC Berkeley to allow undergraduate students who follow a non-Earth Science major to later work competently in industry and government on climate-related issues (University of California Berkeley, n.d.). Interdisciplinary PhD programmes are increasingly spotting climate change.

Education for behaviour change

Higher education can potentially play an important role in educating for awareness and behaviour change in relation to the climate crisis (also see Chapter 3). Sutoris (2021) argues that 'Anthropocene skills' 'need to be at the centre of curricula' equipping young people with the ability to clearly deviate from conventional patterns of thinking and acting to help. That requires rethinking of teacher training so that education can 'help us envisage alternative futures' (Sutoris, 2021).

When compared against the contribution of research, higher *education* seems to be far less developed. There is no comprehensive effort of the higher education sector worldwide to prepare students for preventing a global climate catastrophe, only a scattered picture of local, often disciplinary initiatives or even initiatives of individual professors. Systematically changing education programmes requires 'significant support from the top management' of universities (Fernandez-Sanchez et al., 2014, p. 8) even sector-wide agreements in self-governing bodies or professional associations, not only the efforts of individual researchers. Education for climate change requires a shared political agenda and could and should be embedded into the education for sustainable development agenda, which also lacks implementation (Fernandez-Sanchez et al., 2014).

Public education

Public education is also part of higher education's mission, and can be used both to spread universities' research results and to position universities as publicly responsible institutions. The degree to which higher education institutions make use of this double possibility varies greatly. For example, Harvard University devotes an entire website to presenting Harvard's encompassing approach to addressing the climate crisis, offering a whole range of free online courses on climate change and its health effects (Harvard University, n.d.). The engagement of higher education institutions to use their reputation and capa-

bilities for public education on climate change could certainly be expanded. This leads over to the next section on the third mission and public debate.

Third Mission and Public Debate

Both research and education have an inbuilt transfer dimension – the third mission of universities (Berghaeuser & Hoelscher, 2020; Compagnucci & Spigarelli, 2020) that follows quite naturally from the execution of their tasks and that links them to civil society and the economy. It is variably also referred to as community outreach or service delivery (McCowan, 2020) in the literature. The third mission is not clearly defined, focusing on various aspects: economy and technology transfer, or the social dimension, or the work with communities, civil society, a wider public to communicate research findings and have public debate, etc.

It is evident that a mechanistic one-way idea of transfer where insights generated in science are then transferred into society, and where transfer is a separate third function distinct from research and education, would be inadequate. If the third mission is treated in an extra section in this chapter, this is not to present it as separate from research and teaching, but to discuss the transfer dimensions inherent in research and teaching activities in an integrated way.

Science and civil society
Here, work with civil society is highlighted as a key activity in dealing with the climate challenge. Climate change clearly gives higher education a greater role in the public, increasing expectations of policy and civil society for policy advice, advocacy, leadership and problem solving (see also Marginson [2020] and Chapter 10 in this book).

Today's situation demands the responsibility of the entire science and higher education system, not of individual researchers as it used to be (Renn, 2019). It also requires the integration of local and indigenous knowledge and solutions (see also IPBES, 2019) and enhanced linkages with civil society (Renn, 2020: p. 415).

Work with civil society can range from researching and further developing local practices of sustainable use of natural resources and coping strategies to deal with climate change to jointly exploring the scope for moving to climate-neutral traffic at the intersection of science, politics and society. One example is the funding scheme 'climate real-life lab' ('Reallabor Klima') by the higher education and science ministry of Baden-Württemberg that started in 2021. The 'Scientists for future' and 'Students for future' movements in the German-speaking countries are examples of bottom-up initiatives of academics and students to work with civil society on societal change.

One barrier for more institutional engagement may be that universities are typically funded for education and research, but not for their third mission. It they get credit for their third mission activities, technology transfer has a higher standing – and clearer monetary benefits – than social innovation (Hachmeister & Roessler, 2021).

Contested (climate) science and the public role of universities
Climate change is one of the areas in which the results of scientific research are widely presented and discussed in the general public. Different and changing scientific results can lead to confusion and create the impression that science is unreliable, interest-led or even arbitrary. Responsible science communication is increasingly important. Along with the rise of populism, digitalisation and the important role played by social media in forming public opinion, this has led to a situation in which 'truth' and 'facts', two concepts central to the functioning of science and academia at large, are being challenged in unprecedented ways by a new relativism. In some systems, it brought the higher education and science systems into a defensive mode where public funding of those parts of them that produce uncomfortable results is being put into question.

As a response, new initiatives are highlighting and defending the mission of universities of upholding the values of an unconditional commitment to the quest for truth, of freedom of research and speech and of independence from the political system. The 2020 update of the Magna Charta Universitatum explicitly formulates the problem of the erosion of trust in academia and the importance of fighting for the independence of higher education and science, specifying universities' responsibility to contribute to sustainability (Observatory Magna Charta Universitatum, 2020). Similarly, the Bonn Declaration on Freedom of Scientific Research (2020) for the European Research Area makes linkages between the issues of academic freedom, plurality of voices and sustainable development.

While those are important signals to policy, the challenge ahead is how to reach those parts of the public that either have a profound suspicion or simply ignorance of the functioning and findings of science and research.

Science, COVID-19 and the climate crisis
The experience of the COVID-19 pandemic has highlighted the central role of science in providing facts and insights as a basis for responsible political discussions. In Germany, it has created awareness of the need for a strong, diversified and independent higher education and research system. The German Science Council, the highest self-governing body of German higher education and research, calls for more investment into the 'resilience' of higher education systems, understood as the ability to respond effectively to unforeseen challenges and help society recover from crisis (Wissenschaftsrat,

2021). To achieve this, a broadly diversified research landscape is needed both with respect to research topics and disciplines involved, and open-ended research into fields that do not (yet) appear as relevant.

The need to deal with COVID-19 has brought the public education function of research much more to the fore and gave it a new status, triggering an intensified debate about science communication and the role of science in policy advice, as well as stimulating professionalisation in this area (DUZ, 2021; FAZ, 2021). The fact that researchers are becoming political actors when engaging in the communication of research results raised issues as to the norms of objectivity and neutrality of science.

In both the COVID-19 and the climate crisis global science provides solutions to address a global political problem, but we see national politicisation, incompetence to translate it into action and a failure of international cooperation at the government level. The climate crisis is loaded with additional problems of vested economic interests that stand against the needed transition, and the longer time frame.

All this raises the question of what else science and higher education can do not only to be heard by the general public and policy makers, but for their findings to be translated into policies. Initiatives such as the recent call by the Association of European Associations of Science (EASAC, 2020) for concrete policy changes – disinvestment from fossil fuels and taxation for green investments – can be seen as a change of culture.

Consumption and Campus Management

There are several reasons for higher education and research institutions to care about the climate-friendliness of their own activities: the allegation of double standards if higher education and research institutions do not live what they preach; a significant and immediate effect upon the environment; a strong educational effect through the example students experience on campus. Students then become graduates and their altered attitudes and behaviour patterns radiate into society. More philosophically and fundamentally, universities have an expressive function that reaches beyond the education of students out to society (McCowan, 2020); they can be seen as micro-societies in themselves and can lead by example as part of the fulfilment of their third mission.

Universities' climate footprint

At present, data on universities' climate footprint is scarce as only a handful of universities in the world collect and publish it (Helmers et al., 2021). Moreover, the limited consistency between the methods used makes comparisons difficult. An analysis of the data of 20 universities from around the globe that document their carbon dioxide emissions shows an average of 2.41 metric

tons of CO_2/capita and year, albeit with a wide variation ranging from 0.73 to 8.17 (p. 12). Other reviews come to different results depending on methodology, but the orders of magnitude are comparable. Within Europe, most universities reporting carbon footprints seem to be in the UK (where this kind of reporting is encouraged by the government), and only very few in Germany. The only zero emission university identified on a global scale, if emission offsetting is taken into account, is Leuphana University Lüneburg in Germany (for Germany see also Müller & Person, 2020).

With the initiative 'Race to Zero – universities and colleges', the higher education sector's subsection of UNFCCC's global 'Race to Zero' initiative, signatories commit themselves to setting a target for reaching climate neutrality, passing an action plan and midterm goals, and reporting regularly on their progress. The initiative has 332 signatories from the US, 110 from the UK, 44 from China, 14 from France, ten from Brazil, nine from India, three from Germany, two from the Netherlands, one from Japan and none from Russia (Race to Zero, n.d.).

In German higher education institutions, depending on *Länder* policies, narrow procurement regulations and the lack of institutional authority over their buildings represent substantial barriers (Leal Filho, 2021). Yet, several higher education and research institutions have been certified according to EMAS standards (the European Union's Eco Management and Audit Scheme) or similar schemes (see McCowan et al., 2021, pp. 43–45).

Participation in various networks and initiatives for sustainable development and green campuses became relatively widespread. In Germany, roof organisations have formed to provide networking space (e.g. the network 'hoch-n' with seed funding from the national higher education ministry or the 'Bavarian Network for Sustainability in Education'). Many are, however, networks of academics rather than of entire higher education institutions, or confine themselves to declarations of intent.

The low numbers of universities documenting their climate-related emissions, the low degree of standardisation and thus comparability of climate reporting and the few institutions that have committed to carbon neutrality indicate that higher education is not driving the climate action. It is to be hoped that the 'Race to Zero' initiative will soon change this.

The carbon footprint of research- and education-related travel

A particular challenge is the dependence of research collaboration, international education and student exchange on flights. Shields (2019, p. 598) estimates that the total 'greenhouse gas emissions associated with international student mobility were between 14.01 and 38.54 megatons of CO2 equivalent per year in 2014', which is somewhere between the national annual emissions of Latvia and Tunisia.

So far, the alternatives provided by digitalisation have maybe not been fully tapped yet, and there is still vast potential to exploit. Substituting physical international meetings with digital ones may even have advantages such as saving time and achieving a higher degree of inclusiveness. However, real encounters and real experience in foreign cultures cannot be substituted. Internet use and videoconferencing is more carbon dioxide intensive than many think (Obringer et al., 2021), but digitalisation can be used in climate-friendly ways if applied with care (Lange & Santarius, 2020). The evidence as to whether increased dependence on digital exchange during the pandemic has intensified or impeded international research is so far mixed (Fry et al., 2020; Lee & Haupt, 2020).

Radically reducing flights certainly is a great challenge for higher education and research, as international collaboration and exchange are needed more than ever. A first pragmatic step is the voluntary pledge being made by more and more academics on an individual basis to renounce short-haul (<1000 km) flights. In September 2019, such a self-commitment had been made by 1700 academics in Germany. Some universities have made it a systematic policy for their staff not to refund short-haul flights. Eberswalde University for Sustainable Development was the first higher education institution in Germany; Tilburg, Ghent and Groningen were among the pioneers in the Netherlands. The German Academic Exchange Service (DAAD) promoting physical student mobility has replaced physical mobility with other forms of exchange, flights with other forms of travel wherever possible and favours long-term over short-term mobility (DAAD, 2021).

Increased awareness of the environmental costs of flights and their more conscious use and prioritisation is probably the way forward. Yet, institutional policies on flights could be more widespread as compared to commitments and pledges made by individual academics.

Campus management and adaptation

An aspect easily overlooked in climatically stable regions of the world is the task to prepare campuses and research laboratories in vulnerable regions for climate change, so that higher education and research can continue to take place. This becomes an ever more challenging task, which is also important in equity terms, and to prevent downward cycles of regions badly hit by climate change.

Looking at the sector's overall response in the area of consumption and campus management, there is a striking prevalence of 'soft' over hard initiatives and of individual over institutional responses, which leads over to the next section asking for the roles of different actors in responding to the challenges posed by climate change.

The Roles of Different Actors

University leaders and institutions

University leaders are increasingly aware of the institutional responsibility facing higher education and there is increasing evidence of individual heads of institutions giving top priority to climate responsibility. For some, it is a welcome opportunity for heightening their institutional profile. Slogans like 'setting a good example', 'because we have the potential' and 'designers of the future' issued by the Vice-Chancellor of TU Munich (Hofmann, 2020) hint in this direction. However, as Latter and Capstick (2021, p. 1) warn, while climate-related university declarations 'provide the potential for advancing sustainability within the sector, the tendency to use declarations as publicity and promotional material does detract from new commitments and action'.

If university leaders truly take the climate agenda on board, this has the potential for developing encompassing institutional climate strategies and for mainstreaming the climate challenge into all aspects of institutional activity. A coherent institutional approach which needs leadership from the top is required. This certainly holds for the strategic development of institutional research profiles, frameworks for curriculum development, third mission activities and campus management. It also holds for a sectoral closing of ranks in favour of climate protection policies, where national university vice-chancellors' associations have a voice.

Rankings

The publication of the first *Times Higher Education* (THES) ranking of 'top universities for climate action' in 2019 is an indicator of the increasing relevance of climate policy and action for the higher education sector. As the ranking depends in part on universities' voluntary disclosure, so far it presents only 566 universities' performance from 81 countries or regions. Its metrics include research on climate action (27 per cent), low-carbon energy use (27 per cent), environmental education measures (23 per cent) and commitment to carbon neutral university (23 per cent) (*Times Higher Education*, 2021).

Such rankings give further visibility and importance to the topic and provide an incentive for higher education institutions to heighten their profile in this area. They may help direct universities towards climate-friendly policy and practice and contribute to legitimising and mainstreaming institutional engagement in the field. But rankings may also divert climate action from effective measures to marketing and image concerns (Helmers et al., 2021, p. 2). The general criticism of the metrics and institutional orientation towards them also applies in this area. Finally, learning from each other in international networks may be more beneficial than competition (McCowan, 2021).

Self-governing bodies of the higher education and research system
Self-governing bodies can help formulate the state of thinking on climate policy and action and thereby stabilise an achieved common sense, focus attention, stir further debate, provide a frame of reference and give legitimacy to individual institutions which want to engage in the field. Vice-chancellor and university associations, professional societies, science councils and accreditation agencies can all potentially play a role in this field.

In Germany, the Rectors' Conference (HRK) has been particularly active. In 2009, it formulated a commitment of its member institutions to the sustainability agenda in line with UNESCO's Social Development Goals (HRK & UNESCO, 2009) and reaffirmed and specified this commitment in 2018 (HRK, 2018). In 2021, together with Hamburg University and the Koerber Foundation, it gave more urgency to its pledge, focused it explicitly on climate protection and listed concrete climate action activities for universities (GUC Hamburg, 2021). The declaration was based on a study led by McCowan, effectively making a first ad hoc start of the mapping exercise that this chapter proposes (GUC Hamburg, 2021).

In the UK, the most important associations in tertiary education have jointly founded a Climate Commission (EAUC, n.d.), aspiring to make concrete progress towards climate neutrality of the sector as soon as possible. Besides supporting 'Race to Zero', it also provides practical tools such as a sustainability leadership scorecard for the use of institutions. About half of public universities in the UK have signed a campaign to concretely withdraw investments of their own funds in fossil fuel (*The Guardian*, 2020).

These examples show how overarching sectoral initiatives can give extra momentum to change. Comparing the German and the British activities, the latter are much more concrete and focus on tangible results. Self-governing bodies in higher education and science could use their organising power to coordinate sector-wide binding commitments and concrete actions.

Governments
While the battle for public opinion on the climate crisis is largely won at least as far as Europe is concerned, it is governments that are slow to do anything really strong. Why aren't universities as institutions putting pressure on national governments everywhere?

There might be a lack of a sense of agency or responsibility of many university leaders with respect to the topic. Also, in many countries universities are framed as politically neutral institutions, seen as generating research but leaving the conclusions and policy implications to others. Thus the institutionalised channels for science–policy cooperation are missing. It may also be a conception of democracy which shies away from 'expertocratic' elements. Additionally, it is the dependence of large parts of higher education and

science on public and/or private funding, a part of the social embeddedness of higher education.

Governments play a fundamental role in fostering or impeding effective contributions of higher education and research: providing the legal and regulatory frameworks, basic funding and targeted research funding, setting climate-related goals, breaking down the sustainable development goals to higher education and entering target agreements with individual institutions. Stable and sufficient public funding is an important basic condition giving higher education institutions the leeway to engage in climate-related activities. Private institutions less frequently engage for the climate agenda and are only in a financial position to do so if they are richly endowed (McCowan, 2021). However, structural diversity of the sector might be important to address various aspects of the climate crisis (McCowan, 2021; McCowan et al., 2021).

On the other hand, if universities want to think and act ahead of the current system, they need institutional leeway. This links back to the old Humboldtian concept that higher education and research serve society best if they are granted a high degree of independence and are thus freed from the obligation of immediate utility. As Renn (2020, p. 416) concludes, 'it remains necessary to muster societal support for high-trust exploratory research free of utilitarian constraints'.

The contributions of the sector in the area are astonishing given all the constraints. The intrinsic incentives for networking and exchange of knowledge inbuilt in global higher education and science and in the motivation of researchers and students all over the world contribute to the common good. More joint inter- and supranational funding efforts of international research on climate change would be helpful.

CONCLUSIONS AND OUTLOOK

This book highlights the contributions of higher education in many realms far beyond individual economic benefits that are still the main preoccupation of many governments across the world (e.g. DfE, 2019). These contributions are social, political or cultural, individual or collective, national or global. The climate crisis exemplifies the need to strengthen the transformative and creative functions of higher education and research (see Chapter 3) and to interpret them in more radical terms than before. The functional role of research has always been to carry innovation into society, and education is inherently transformative. Higher education and research have therefore always been central for technological, social, political, cultural and economic progress. But by fulfilling these functions, higher education and research have so far kept an economic and cultural system running that has brought our planet to the edge of collapse. With respect to the climate crisis, the task of higher education and

research is therefore to be transformative in more radical terms, helping human civilisation reinvent itself to ensure a liveable and valuable human civilisation within the natural boundaries of our planet.

Many are hoping for scientific and technological innovation created in the university and science system to pave humankind's way out of the climate crisis. Some higher education and research institutions are starting to assume a leadership role in heading the needed transformation, and some associations of academics are raising their voices more decidedly on the need for radical change. To successfully achieve this transformation, higher education and research institutions and their members need to start by more deeply reflecting on the ways in which they are themselves embedded in and part of the economic and societal model that has brought us into the current situation. To enhance their credibility and set an example to students and society at large, more binding commitments and concrete actions to reduce their own ecological footprint and more widespread participation of the sector in the 'Race to Zero' initiative are needed. To be truly transformative, higher education and research need more, not less, functional autonomy from the political and economic system, while ensuring a sufficient level of public funding.

Yet, profound open questions remain as to the relationship between science and the politics of climate change. While the IPCC provides an elaborate structure and process for feeding the results of global climate science into policy at the level of the United Nations, the mechanisms for translating the resulting global climate agreements into tangible national climate protection activities are missing. At national level, structures for a systematic interaction of science and politics on climate issues are largely absent. Higher education and science institutions, their researchers and associations probably will need to call for such structures and raise their voices on climate change much more loudly and persistently to be heard.

This chapter is a possible starting point for a systematic internationally comparative, empirical exercise mapping where different countries stand with respect to the different ways in which higher education and science impact upon and are affected by the climate crisis. The dimensions discussed here – research, education, third mission and public debate, consumption and campus management – can serve as a structuring device. Most environmentally engaged higher education institutions are structuring their climate-related activities along these or similar lines anyway, and other authors have proposed similar divisions (see e.g. McCowan, 2020).

Given that climate change is a truly global problem but that both affectedness and approaches towards addressing it vary greatly between national higher education and research systems, getting a clearer picture of the situation in different systems and learning from each other's example seems highly valuable. It is encouraging to see that with the Hamburg Declaration 2021

(GUC Hamburg, 2021), 46 university vice chancellors from 27 countries have committed themselves to heading an institutional leadership role in the needed societal transformation and that the study backing up this policy pledge has started a mapping exercise with first case studies on 'universities facing climate change and sustainability' from different higher education systems (McCowan et al., 2021). We need to broaden and deepen such efforts, and we need larger and more systematic comparative studies into the ways in which higher education and science are responding to and confronting the climate crisis, and the challenges they are facing.

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6. Opportunities and challenges for open higher education systems in global context

Marijk van der Wende

INTRODUCTION

The contributions of higher education (HE) impact individuals, societies and economies by generating benefits at local, regional, national and global levels (Marginson, 2020). Higher education institutions (HEIs) may be globally active, yet they are at the same time nationally embedded and expected to be locally engaged (Beerkens & van der Wende, 2007). Understanding higher education's (HE) contributions requires us thus to think about the connections between these levels and consequent conditions for HE's contributions.

HEIs are nationally embedded as parts of HE systems, which are defined as a rule as the totality of quantitative-structural features within a country (Teichler, 2007). These national systems became predominantly organised as a national public service sector, with a key steering role performed by the state as a regulator and major funder of HE, which is in this constellation primarily expected to contribute to the national public good. However, in response to the globalisation and regionalisation processes, HE is increasingly expected to contribute also beyond the national level, to for instance regional agendas such as the European Union (EU) integration process (e.g. European cultural identity, labour market mobility and economic performance), and to global challenges such as climate change and inequality.

An important condition for HEIs to be able to contribute beyond the national context is that the national system in which they operate allows them to do so. The system needs to be sufficiently *open* to the wider regional/international/global environment in order for HEIs to contribute to tackling challenges at these levels. Open systems do not only allow HEIs to contribute to global challenges, they are also seen as beneficial for HEIs themselves. Internationalisation enlarges their pool of available human talent, of potential financial resources, allows them to extend learning opportunities, and spurs

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excellence in teaching and research through both international cooperation and competition.

The question 'why does openness matter?' is thus not too difficult to answer from both the perspective of HE's contribution to the global public good, as well as a condition to strengthen the role HEIs can play in their national and local contexts. Especially seen from the logic of the global science system and the global character of humanities' most pressing challenges, it could even be assumed that openness is in fact the optimal and almost natural condition for HE to function.

However, increasing tensions can be observed in relation to openness. With respect to education, open systems may be challenged by weakened national steering capacity (e.g. in relation to international student flows), making it potentially vulnerable for nationalist–populist critique. For research, openness may be jeopardised as a consequence of heightened geopolitical tensions and related national security concerns, with potential consequences for academic freedom.

This chapter therefore addresses the question 'how open can it be?' by conceptualising open HE systems and exploring the related opportunities, challenges and consequences. Illustrated with examples from the EU, which arguably created the world's largest and most far-developed public open space for HE (i.e. the European Higher Education Area [EHEA] and the European Research Area [ERA]) is as a strong advocate of open science.

It will put openness in perspective in a world in which the kind of multilateralism on which international academic cooperation and mobility used to be based has been weakened, values of an Open Society are under pressure and the globalisation paradigm may be shifting.

GLOBAL CONTRIBUTIONS AND GROWING GLOBAL–LOCAL TENSIONS

HE is considered a key contributor to the advancement of knowledge and social and economic development at local, national and global levels. World leaders call on the sector to contribute to global challenges such as climate change, cleaner energy, inequality, polarised societies and technological transformations. The world's leading universities willingly acknowledge their unique responsibility as 'global actors' and HEIs more generally recognise global contributions in their mission statements, although this may be more obvious for their research activities than for their teaching function.

The United Nation's Sustainable Development Goals (SDGs), formulated in 2015 with the aim to create a better and fairer world by 2030, shaped a framework for global contributions. It concerns both HE itself, access to which should by 2030 be ensured on equal basis for all women and men (SDG4.3),

as well as HE's contribution to achieving goals related to poverty (SDG1); health and well-being (SDG3); gender equality (SDG5) governance; decent work and economic growth (SDG8); responsible consumption and production (SDG12); climate change (SDG13); and peace, justice and strong institutions (SDG16) (UNESCO, n.d.). The SDGs gained wide support from the HE sector and many HEIs are taking action to contribute to their achievement (O'Malley, 2021). Scoreboards and dashboards have been developed to keep track of contributions, progress and success (VSNU, n.d.). Contributions to SDGs have become an element of global ranking (THE, n.d.) as 'a benchmarking tool to support their sustainability efforts through performance insights and best practice from around the world'. The SDG framework seems to offer universities an opportunity to prove societal value and move beyond research excellence to demonstrate social commitment and impact.

While the SDGs were believed to be broad, ambitious and perhaps idealistic, the sense of magnitude of global challenges further increased since their launch, as the support for global institutions, such as the UN and WHO, was being weakened after the US elections and the Brexit referendum in 2016, which eroded the spirit of international cooperation and global multilateralism. But the ultimate test of the situation emerged in early 2020 with the outbreak of the global COVID-19 pandemic and resulted in the strongest proof of universities' societal value and of the virtues of an open global science system. The genomic sequence of the virus was quickly detected and shared globally, allowing a COVID-19 vaccine to be developed at unprecedented speed. Its global dissemination, however, as in the hands of governments and industry, was hampered by nationalism and protectionism.

Beyond the pandemic, HE needs to be prepared for what may be the three most important 'existential threats to humanity: global warming, nuclear war, and a deteriorating democracy', according to Noam Chomsky (2019). He added that: 'Internationalism and an engaged and educated population are the only hope for dealing with these major crises.' Which requires 'a society that is not only educated but able to deliberate, to interact, globally in fact, to move towards solutions' (Chomsky, 2020). In his view, it is feasible, but clearly, it is not enough to have the knowledge, as engagement also implies international solidarity.

This formulates a formidable task for HE in preparing the next generations for a global future, arguably moving beyond the current internationalisation models (industries), looking for avenues to help students develop the most needed abilities, such as empathy (both as cognitive and affective ability), in order to generate the efforts needed to tackle global challenges in an increasingly nationalist and antagonistic political climate. It goes without saying that this task can best be achieved in an open HE environment, allowing actual interaction between students and faculty from different backgrounds.

The value of openness is not only recognised in mission statements, policy slogans or pedagogical principles. For HEIs it is also confirmed in terms of performance. Institutions with an 'open border' outlook to international collaboration came out as the best performers in U-Multirank 2019. The project leaders commented that 'these results are a "powerful antidote" to the inward-looking narrow nationalism encouraged by politicians in many countries' (Mitchell, 2019).

This comment on 'narrow nationalism' reflects the tensions that have been rising in recent years around HE's global engagement vis-à-vis its national commitment and local delivery. It is increasingly understood that HEIs' readiness to take global action needs a combined focus with local and national impact. Profiling at global, but ignoring the national and local, levels may weaken HE's legitimacy and public support in the national context. Indeed, since the backlash against globalisation in the West for related increased socio-economic inequality within these countries, we realise how delicate the balance between HEIs' global ambitions, national commitment and local delivery is. How this may affect public support for HE, and even make the sector vulnerable for nationalist or populist parties, that easily criticise their international and global aspirations as part of their anti-globalisation and anti-elite discourse (van der Wende, 2021).

In this respect, it has been argued that HEIs, especially 'world-class universities', need to redefine their social contract in a global(ised) context, i.e. broaden their missions for internationalisation to be more inclusive, to balance their contributions to economic growth with social responsiveness (van der Wende, 2007; 2017). And that 'world-class systems' should be able to address growing inequalities, therefore be able to combine openness for global performance and excellence, with internal diversity for national and local relevance (Van Vught et al., 2018).

Complexity for HE to operate in the 'glocal' reality is thus increasing (Marginson, 2018). Meanwhile at global level, neither a global system of HE, or global governance has actually emerged. A global quasi-market perhaps, but without clear rules or regulators (Van Damme & van der Wende, 2018). Moreover, the multilateral world order is being threatened by populist and isolationist trends in the West, while new global players, such as China, present alternative views on the rules of the game and on globalisation as such. Resulting geopolitical tensions, primarily between the US and China, are increasingly involving the EU as well. These could be seen as a new form of neo-globalisation, likely frustrating the kind of academic and scientific interdependency that allows HE to contribute to the global common good (Postiglione, 2019).

The following sections will present a theoretical framework for open systems under the influence of globalisation; that is, how the virtues of an open system

may at the same time reduce the national steering capacity which is needed to provide for adequate system coordination, especially with respect of its education function. It will be followed by an illustration from Europe of how local–global tensions and open systems dynamics can jeopardise HE's legitimacy in the national context and make it vulnerable for nationalist–populist critique. The discussion will then be extended to research, considering the challenges for open systems resulting from increasing geopolitical tensions and changing globalisation paradigms. Also here the EU will be used to illustrate. Not only because it has created the world's largest and most developed public open space for HE and is a strong promotor of openness globally (including open science), but also because the EU as such is influenced by and interacts with the broader global context. In that context, the EU's ambitions regarding openness are increasingly being challenged. Notably by the rise of China as a global player in science and technology, but also presenting a different globalisation paradigm and value mix, thus stirring up geopolitical tensions.

OPEN SYSTEMS UNDER THE INFLUENCE OF GLOBALISATION[1]

Theoretical insights on the dynamics in open systems can be derived from system theory. When (social) systems are positioned as open to their environment, internal conditions may be affected by the flows across the system's boundaries. Notably:

> The condition within an open system is often in a dynamic balance, or steady-state. The condition of that steady state within a system is influenced by the energy or influence that crosses that system's boundary. If there is a need to achieve (or maintain) a desirable condition within a system, it is necessary to control or manage the flow of energy across its boundary. (Tamas, 2000, p. 5)

Achieving or maintaining such an equilibrium within an HE system, while keeping it open at the same time, is a new and complex task, for which national authorities or policy makers (ministers of HE) are usually not or ill equipped, as available steering concepts and instruments at national level fall short, or would have to be exercised at a different level, while global alternatives are mostly un(der)developed as yet.

This is further explained by the effect that globalisation may actually reduce the sovereignty of nation states to coordinate/steer the HE system. Sovereignty as a condition for the steering capacity to effectively maintain the system's internal equilibrium, that is, to balance internal demand and supply, costs and

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[1]   This section was copied with permission from van der Wende (2022).

benefits, contributions and retributions, and strive for equal opportunity. Thus, for an open system to succeed, an internal equilibrium needs to be maintained, but with restrained steering capacity. This problem seems to be related to two trilemmas that could interact as follows.
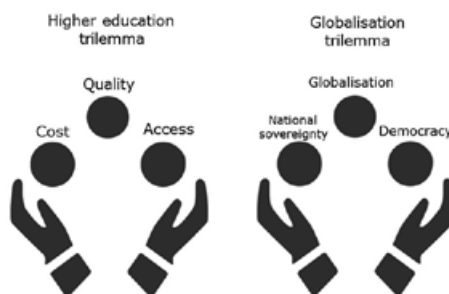
Source: Author (2022), based on Ansell (2010) and Rodrik (2017).

Figure 6.1   *Interacting trilemmas challenging the steering of open systems*

In balancing access, cost and quality of an HE system, governments face a trilemma, as they can always only reach two out of three politically desirable goals: low public and private (tuition fees) costs, and mass access to HE, assuming that they want to keep the quality of HE at least stable (Ansell, 2010). This 'higher education trilemma' implies that access cannot be increased without consequences for costs, unless quality suffers, since a reduction in per-student funding would jeopardise the quality of HE in the long run.

In open HE systems, governments face an additional challenge: the 'globalisation trilemma', in that they cannot have national sovereignty, (hyper) globalisation and democracy at the same time (Rodrik, 2017). As Rodrik denotes, globalisation has redistribution as its flip-side, with negative effects such as increasing social-economic inequality, loss of control of national welfare state arrangements, reduced national steering capacity and possible opportunistic behaviour in the global context. Democracy is at stake as the legitimation of political decisions regarding redistribution. How this affects open HE systems is discussed below.

Thus open HE systems can benefit from internationalisation, but may at the same time lose control over access to HE (as a welfare state arrangement), because their national steering capacity (sovereignty), needed to balance access with the costs and quality of HE, is being reduced (van der Wende, 2017).

In his earlier work, Rodrik (2011) already pointed out that globalisation would only work for everyone if all countries abide by the same set of rules, as laid down in some form of global governance. But in reality most countries are unwilling to give up their sovereignty. The need for global governance has indeed been recognised for HE. But as argued above, 'global higher education' may be a popular concept, but neither a global system of HE, or global governance has actually emerged. Giving up national sovereignty, not only in education, but also in a range of other significant areas such as health, security and foreign policy, has also proven to be one of the major stumbling blocks for the EU integration process.

The combined trilemmas explain the key tensions in open HE systems, revealing how redistribution issues may lead to anti-internationalism and give rise to neo-nationalism. Especially so in the European context, where HE is mostly seen as a public good and is heavily subsidised by the state as a welfare state arrangement.

GLOBAL–LOCAL TENSIONS AND OPEN SYSTEMS IN EUROPE

Protests against globalisation in HE arose in Europe in the wake of the 1999 Seattle protest against the World Trade Organization (WTO). Students took to the streets, especially in Southern Europe, against the Bologna Process (launched in 1999) and the Lisbon Strategy's aims (2000) to make 'Europe the world's most competitive knowledge economy'. In this critical European response, globalisation was seen as a neo-liberal Anglo-American trend which conflicted with European social values and the 'social dimension of higher education' as a public good (Van Vught et al., 2002).

Yet, HE continued to be integrated into the EU's strategy and ambitions as a global knowledge economy. The ERA and the EHEA were created alongside the detrimental effects of the global financial and consequent euro crises (2009–2012), which by and large undermined the EU's Lisbon aims and badly affected the HE sector by national austerity measures. Tensions in Europe further rose with the 2015 refugee crisis. The European Commission (EC), alerted by the rise of populism and radical events, such as in Greece, during the euro and the refugee crises, revised in 2016 its hitherto rather utilitarian education agenda by stating: 'With regard to the recent tragic events related to radicalization in parts of Europe, a particular focus on civic democratic, intercultural competencies and critical thinking is even more urgent' (Council of the EU, 2016).

The 2016 Brexit referendum in the UK, and the unexpected result of the US elections the same year, were further wake-up calls for the rise of populism. But contrary to what is often spread in the media, in Europe there has not

been an overall negative trend in identifying with the EU. Quite the contrary. Eurobarometer data series show an on average upward trend in support for and trust in the EU since 2014, which has risen considerably after 2016 (Brexit). The ERASMUS programme is rated among the best outcomes of the EU (after peace and the euro) and the conditions created for cross-border collaboration, exchange and financial support are generally seen as beneficial (Eurobarometer, 2019). However, as much as there is support for short-term student exchange under the ERASMUS programme, the free mobility of EU students for full degree programmes, which is based on the right of free movement as EU citizens to study anywhere in the EU, is more difficult to sustain under the current conditions. Since the Bologna Process harmonised the degree structures in the EHEA, gradually more degree mobility emerged, but without mechanisms to manage reciprocity of the flows of students between countries. And these academic migration flows have become quite uneven indeed. A challenge especially felt in (small) countries with strong inflow of EU students, resulting in a loss of control over admission policies with potential consequences for costs and quality. In the EU any specific or extra conditions for access would have to apply to the domestic students as well, which raised particularly issues in countries where access was usually not controlled by selection or tuition fees.

The rights granted by the EU to its citizens, students in this case, are not in balance with the EU's legal competencies to regulate for its consequences (unbalanced flows). In education the EU only has a rather weak 'supporting competency' (under article 6 of Treaty on the Functioning of the European Union [TFEU, 2007]) and can thus only intervene to support, coordinate or complement the action of EU Member States. This is based on the so-called subsidiarity principle, which is strictly upheld by the Member States as to preserve the quality and linguistic and cultural diversity of their education systems.

Rodrik's condition that all countries abide by the same set of rules by giving up sovereignty, has thus not been achieved in the EU for HE. At the same time, national governments' steering capacity may be restricted by EU regulation. Notably, the right of free movement and the fact that students from other EU Member States basically have access to HE on the same conditions as Member States' domestic students present challenges. Yet, respecting these rights and principles are conditional for participation in EU programmes and receiving related funding.

Despite the opening up and harmonisation of systems in the EU context and the increasing exposure of HE to internationalisation trends and globalisation forces, the relevant governance arrangements and steering instruments are still mainly based on the assumption that HE systems operate in a national (closed) context, and thus coincide with the legal authority (jurisdiction) of the state

over its national and cultural territory. The consequent steering deficits, for example, lack of control over international activity or flows, may jeopardise HE's public legitimacy in the national (and local) context and make it vulnerable for critique from populist anti-globalisation discourse and parties who wish to 'protect' HE as the kind of welfare state arrangement that they consider to be 'for their citizens first'. HE is then caught in tensions between national goals (e.g. demands for highly skilled immigrants, for R&D performance, labour market and economic growth) and populist pushback emphasising citizens' privileges, national identity, cultural and linguistic traditions. A difficult balance to strike at the risk of weakened public support for HE and even for open borders as such (van der Wende, 2021).

This vulnerability of open systems is mostly illustrated in countries with particularly strong and (thus) open HE systems, for example, the UK, the Netherlands, Denmark and Switzerland. They have all been struggling with the complexity of combining these virtues of an open system with constrained national sovereignty. While their performance benefited greatly from their open system environment, primarily generated by the EU's principle of free mobility and access to supranational funding, insufficient steering at national level has led to unequal student flows and consequent uneven financial burdens. This evoked a backlash against the free mobility principle and even against internationalisation as such. Fuelled by populist movements this can result in re-nationalisation policies, for instancing stricter regulation (in the Netherlands) or limitation (Denmark) of the use of English as the language of instruction. High prizes have also been paid by the HE sectors in Switzerland[2] and notably in the UK upon Brexit, in losing their participation in EU programmes for HE and R&D.

This brings us back to Rodrik's point that globalisation has redistribution as its flip-side, with negative effects such as social-economic inequality, loss of control of national welfare state arrangements and reduced national steering capacity. The combined trilemmas illuminate the key tensions in the HE sector as it reveals how redistribution issues may lead to anti-internationalism and give rise to neo-nationalism. Illustrations from the EU context underline how much European HE is being exposed. With the backlash against globalisation and the rise of populism in Europe in mind, HEIs risk to be caught in the

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[2]   Switzerland is not an EU member and operates through bilateral agreements with the EU. In 2014 a Swiss referendum resulted in an anti-immigration initiative with consequent blocking of access to EU programmes. Damage was reduced by implementation in a limited fashion (2016) and rejection in 2020. However, further exclusion from participation may be inevitable as a result of a governmental decision in May 2021 to block a framework deal (Treaty) supposed to replace the EU–Swiss bilateral agreements (see Leybold-Johnson, 2021).

political polarisation and become easy targets of populists that happily critique their internationalisation strategies and global ambitions as 'elitist cosmopolitanism' as part of their anti-globalisation and anti-elite discourse (van der Wende, 2021).

The need for more effective steering of student flows is understandable given the conditions in which universities and governments have to operate in Europe (Hoogenboom, 2017). Hence the need to develop new approaches to avoid further imbalances, as they may occur in Europe in the wake of the COVID-19 pandemic and consequent economic recovery period. These could very well also concern flows of researchers, who might seek career opportunities in countries with better economic recovery conditions, that is, in the Northwestern part of Europe, which would (re)create brain drain from countries in the Southern and Eastern parts, which already suffered from the loss of academic talent after the euro crisis and were also in the front lines of the refugee crisis. Support for the EU is waning there and could be further undermined by more brain drain, allowing populist parties in these countries to gain more traction. Resentment could grow, eventually threatening the social and political cohesion of the EU.

While borders are still closed and academic mobility is frozen, it may be time to rethink some of the established instruments, in particular physical mobility. More virtual mobility and online collaboration would contribute to Europe's Green Deal agenda, the required investments in digital infrastructure across the EU to another of its cornerstone initiatives, and could mitigate the brain drain of researchers (Van der Hijden & van der Wende, 2020). Rethinking physical mobility is needed to make open systems more sustainable; to make internationalisation greener, and publicly financed open systems less vulnerable to redistribution issues that may fuel populist critique from within.

However, especially for research, open systems are also facing challenges from outside. Despite the global character of the science system and strong drive towards open science, notably promoted by the EU, growing geopolitical tensions are putting the drive for openness under pressure. In particular China's rise as a global player in science and technology, but also presenting a different globalisation paradigm and value mix, is stirring up these tensions. It will require the EU to strengthen internal cohesion and use stronger mandates to defend its values, including institutional autonomy and academic freedom, as will be discussed in the next section.

THE COVID-19 PANDEMIC AND GEOPOLITICAL TENSIONS: GLOBAL OPPORTUNITIES AND CHALLENGES FOR OPEN SYSTEMS

The COVID-19 crisis put the EU's internal cohesion under great pressure and amplified already existing internal tensions. Upon the virus outbreak, all Member States chose nationalist–protectionist solutions and closed their borders. The EC was at first unable to coordinate or to provide much needed medical supplies. These came from Russia and notably China, turning its New Silk Road into a 'Health Silk Road' for 'face mask diplomacy', especially reaching into countries in the Southern and Eastern parts of Europe (the so-called 'CEEC 17+1' with which China signed New Silk Road agreements over the last couple of years) (van der Wende, 2020). Including Italy and notably Hungary, where after the Central European University (CEU) was banned, the government invited China's Fudan University to establish a branch campus. Meanwhile, negotiations over the EU's multi-annual budget 2021–2027, which were already complicated because of Brexit, were overshadowed by tensions concerning the solidarity between the North and the South, where countries, including again Italy, were hit the hardest by the pandemic and economic recovery required substantial redistribution of the new EU budget. Conflicts concerning the breaching of democratic values and rule of law as stated in the EU Treaty by Hungary and Poland were playing on the West–East axis and their resolution was made conditional for post-COVID-19 recovery funding by the European Parliament. Lengthy negotiations led to a political agreement on the EU budget for 2021–2027 and the 'Next Generation EU' recovery plan in December 2020. The volume of the negotiated packages combined was unprecedented in the history of the EU, at 1.8 trillion euros.

The pandemic was a test for solidarity for the world, as well as for the EU internally. While it inspired at first an unprecedented global collaborative research effort and push for open science (Lau, 2020), leading to the fast development of vaccines, its production and dissemination became overshadowed by competition and protectionism, that is, 'vaccine nationalism' (Douglass, 2021). Also in the EU, where it was further complicated by new and unresolved trade barriers with the UK, following the implementation of a 'hard Brexit' in early 2021. Meanwhile China and Russia were reaching into Europe, again mostly in the Eastern and Southern parts, now with alternative vaccine supplies; that is, 'vaccine diplomacy'.

Despite the fact that an open global science system proved to be invaluable for the fast development of a COVID-19 vaccine as a major global contribution of HE, it is still too early to assess the full impact of the COVID-19 pandemic

on HE, globally, for Europe and for open systems in particular. For the world, a key question seems to be whether it will lead to (a further) de-globalisation or re-globalisation. For the EU, it remains to be seen whether it will bring the Union closer together or drive towards further fragmentation, re-regionalisation or even re-nationalisation. Clearly, only with stronger internal cohesion will the EU be able to play a significant role externally, to sustain its open structures and the values on which European academic cooperation has been based internally, and of which it likes to convince its external partners as well.

But as it seems, the EU may have to rethink its approach or paradigm on openness as such. It has been a frontrunner on open borders, creating a large and open space for HE (EHEA and ERA), and is a strong global advocate of open access and open science. This was in line with the Western globalisation model, based on the paradigm of openness; open borders for free trade as the neo-liberal logic for economic growth, the Internet as an open space for democracy and the liberal values of an Open Society. While it is becoming clear that the assumptions about the virtues of an open and unregulated Internet have been naïve, it is also being argued that the EU has been naïve to open its internal borders, without clear control over its external borders. In that fashion, the question can be asked whether the EU is naïve if it wants to continue its open mobility, cooperation, open access and open science policy. Especially so in combination with cooperation in these areas with less open regimes such as China? Since it labelled China in 2019 as a 'systemic rival promoting alternative models of governance', it has been widely heard that in dealing with China 'You can't be naïve'. Thus inevitably the question is indeed: how open can it be?

How Open Can It Be?

Since the principles of multilateralism, open trade and open borders have been challenged, security guarantees weakened and digital threats increased, the EU has been struggling with the consequences of its openness. It is increasingly being realised that the taken-for-granted conditions of openness, i.e. freedom (of free speech, press, but also academic freedom) and security (personal, national, cyber) are deteriorating. Meanwhile, China's alternative globalisation paradigm with preference for economic growth and security over freedom and openness is coming to the fore and its growing weight and potential dominance in the global HE landscape cannot be ignored (van der Wende, 2020).

The balance between the security risks related to openness on the one hand and freedom and support for liberal democracy on the other, becomes under pressure and seems to be up for debate in the West. Will security outweigh freedom? What will be the consequences for academic freedom, international

cooperation and mobility? Will the EU have to become more realistic, more strategic and (thus) less open?

The EC that took office in late 2019, and labelled itself as a 'geopolitical' Commission, has been developing a more strategic approach indeed. While formerly EU programmes such as H2020 and ERASMUS were opened up to the world, this EC quickly announced as part of its 'strategic autonomy' agenda that collaboration should be regarded as a 'tool of union policy', limiting specific actions to Member States in 'the EU's strategic interests'. HEIs urged the EU to protect their autonomy and academic freedom, as laid down in the EU Treaty and Charter on Fundamental Rights of the European Union (CFREU) both against threats from within (e.g. the act of Hungary against the CEU) as well as challenges from outside. Also Member States asked the EU for help, to level the playing field for scientific cooperation globally and to protect knowledge and data transfer against foreign interference from countries where academic freedom, research integrity, data security and intellectual property rights (IPR) would not be at EU standards, or in cases where knowledge or technology (such as AI) may be used for military purposes or may infringe human rights.

In 2020 the EC erected barriers for participation in Horizon Europe against Chinese and US companies to avoid unwanted knowledge and technology transfer. The EU's strategic autonomy, understood as the 'capacity to act autonomously when and where necessary and with partners wherever possible', a concept original from security and defence policy, was widened to include technology, research and innovation (Borrel; 2020) and exclusion of non-EU scientists from sensitive Horizon projects was further extended in early 2021 (Matthews, 2021). The European University Association's European Global Strategy Response Group responded, arguing that global academic cooperation should still have a place, while acknowledging related dilemmas for Europe's universities: how can the EU strengthen its own research, technology and innovation capacity to become more independent whilst engaging in international collaboration to advance the frontiers of knowledge and develop solutions to solve global challenges? How can the EU and Europe's universities strive to fulfil the fundamental need for openness and a free flow of knowledge and ideas while addressing legitimate concerns over security, values and strategic interests? How can European political goals be achieved without interfering with the principles of institutional autonomy and academic freedom? (EUA, 2021).

The EC developed compliance guidelines for research involving dual-use items. These clearly reflected the renewed balancing act between freedom and security, stating that: 'Academic freedom is a fundamental right guaranteed by the CFREU, however, not exempting researchers and research organisations from complying with regulations that are established to safeguard the security

interests of the EU and of its Member States' (EC, 2020). The EU seems to be reducing its openness indeed in order to better protect its security interests, but potentially constraining academic freedom. Dual-use technology control would be exercised under export control, that is, the EU's mandate in trade, which is much stronger (a so-called *exclusive competency* under article 3 of the TFEU) than the ones it has in education (TFEU 6, see above) or even in research (*shared* competency, TFEU 4). However, its mandate also means to facilitate convergence between export control with human rights norms (Kanetake, 2019). Questions thus arise how this will implicate HEIs in Europe when they are being considered 'knowledge exporters', how will that affect teaching, (collaborative) research and academic freedom, especially when they would be charged with the 'obligation to exercise human rights due diligence' with potential partners in certain non-EU countries?

It will not just be an external but also an internal balancing act for the EU. Values such as institutional autonomy and academic freedom are, despite their place in the Treaty and Charter, not necessarily defined or practised consistently throughout the EU, as illustrated by the Hungarian government by expelling the CEU from its territory and closing its academies of science. Moreover, these values are showing since 2010 an on average decrease across the EHEA (Jungblut et al., 2020).

But, as said before, the EU has only weak legal competences to regulate (higher) education internally. For external action it lacks a consolidated EU policy in foreign affairs, security or defence. In that light, preferably the strongest option, that is, its trade mandate, should be used in order to level the playing field and mitigate risk in global academic cooperation (van der Wende, 2020). The EU's initiative for export control on dual-use technology seems to confirm this direction. More conditions, for instance for technology transfer, IPR, FDI, recognition of professional qualifications, and data access and security (possibly using the EU's strong potential as a global tech regulator under the EU's Digital Services Act) may have been arranged for under the EU-China Comprehensive Agreement on Investment which was signed at the end of 2020.

However, trade deals may not be strong (or fast) enough to soften controversies on values and fundamental rights. Heightened pressures around the human rights situation in Xinjiang urged the EU, the US, Canada and the UK in early 2021 to impose sanctions against Chinese officials for human rights violations against the Uyghur minority in this region. These were returned immediately by China with sanctions for a number of European politicians and academics (EP, 2021; Sharma, 2021). Constraining their academic freedom, indeed, and potentially compromising, but at least considerably delaying, the acceptance of the intended EU–China agreement by the European Parliament. And perhaps

even more so by the national ones, which have recently proven to strongly diverge in their views on relationships with China.

The above shows that, in many respects, not at least in the field of HE, the EU is still a collection of sovereign Member States and at this point not likely to be internally coherent enough to play a significant global role in this area. Are the key values, including academic freedom and institutional autonomy on which such a role should be based, sufficiently well understood and shared within Europe? For a constructive global role, Europe needs to view both its history and its future from a more global perspective, taking the external perception into account; how is it being seen from outside and why? Take more of its history, including the colonial past, on board as to understand how that may still affect current external perceptions, as well as how it may continue to colour the way Europeans look at the world.

European universities are urged to think about the nature of their international partnerships and the academic values they wish to defend. And most importantly about how they should best prepare their students for this twenty-first-century world. How can HE contribute to a global future? As argued earlier, this questions the current internationalisation models and requires critical reflection on research and teaching practices, style of academic debate and dialogue, and methodological shortcomings, especially in those disciplines that mostly shape the human mind. How open is the young European human mind to the world? How can HE provide students the knowledge and essential abilities, such as empathy, for them to develop engagement and the solidarity needed to face the global challenges ahead? Obviously, this can only be achieved in an open HE environment, allowing actual interaction between students and faculty from different backgrounds.

How can the benefits of open HE systems, as a condition for HE's valuable contributions to global challenges and the global common good, as well as their benefits for HE itself, be better regulated? The above discussed steering deficits at national level, weak EU competencies in education, but strong ones in trade, combined with the lack of a global system for HE governance, could bring an old scenario back on stage: should HE be regulated under the trade in services agreement (WTO GATS), after all?

This idea was strongly rejected by the European HE sector when it was proposed to be negotiated by the US in 2000 during the Doha Round of the WTO. It was found to be in conflict with the nature of HE as a public good and, thus, not a tradable service (Vlk et al., 2008). Interestingly the ruling by the European Court of Justice (2020) against the Hungarian government for expelling the CEU from its territory was based on both the European Charter (using the CFREU's articles regarding academic freedom) and the WTO GATS (referring to national treatment, the freedom of establishment and the free movement of services commitments). A fascinating piece of case law

that is expected to set precedent in strengthening academic protections across Europe and bringing GATS back on stage indeed (see Court of Justice of the European Union 2020; Matthews, 2020). It raises questions on how shared academic values can be combined with free trade bargaining, as GATS may also become relevant in the post-Brexit relationship between the EU and the UK (Corbett, 2018).

CONCLUSIONS

We are still amidst the COVID-19 pandemic at the time of writing and, even though there is renewed hope for multilateralism, as expressed during the first-ever online World Economic Forum in January 2021, which welcomed US President Biden, it is still too early to assess the impact on the global HE landscape. Yet even given this fragile situation; backlash on globalisation, geopolitical tensions and the COVID-19 pandemic, globalisation may shift, but will not collapse or be simply reversed. Open science and global cooperation have proven to be essential in addressing the pandemic as a global challenge of unprecedented allure. But the future of open science and open systems is complicated, and we come to realise that our assumptions about openness as an optimal and almost natural condition for HE systems may well need some revision.

We have seen that (the degree of) openness of the system may affect its internal equilibrium, especially when the steering capacity to control the flows across its borders is being reduced. In the European examples provided in this chapter this seems to make HE vulnerable for nationalist–populist trends from within which may weaken the public support for HE, and even for open borders as such. The question is thus how open a system can be sustained with a view to the HE and globalisation trilemmas combined. We questioned whether the current mechanism of free mobility within the EU is sustainable under the current conditions. And whether its open HE policy can be upheld in the broader global context, more particularly in its relationship with countries that do not necessarily share the same values and governance principles. It is already pulling up barriers and reducing its openness, mostly by using its trade mandate. The possibility for the EU to deal with HE under trade may create better external conditions, but may (further) reduce the national sovereignty of its Member States over HE (Rodrik's trilemma confirmed). Whereas in China global engagement and exposure is easily combined with tight internal regulation, keeping sufficient control over internal redistribution, but at the expense of democracy (Rodrik's trilemma confirmed again).

Clearly the Western (neo-liberal) globalisation paradigm is being challenged by China, which seems to be promoting an alternative according to which openness can very well be combined with strong regulation and control

by the state. Open to global opportunities, but closed to related threats, China's model seems to challenge the assumption that with globalisation the role of states is diminished, resulting in deregulation and increased autonomy of HEIs. Autonomy as seen in the West as a condition for HEIs to effectively navigate the complex global–national–local context. From a Western perspective autonomy and academic freedom are also conditions for scientific excellence, as much as a market economy cannot exist apart from a liberal democracy. In China such contrasts may not be seen as a tension but rather as a normal situation (Marginson, 2019). Examples of Western globalisation logic that do not seem to apply always and everywhere and that are being put into question by China and in the West as it needs to reconsider its balance between freedom and security.

Even though it is early to tell, we assume that globalisation will shift. Most likely eastwards, as it was already doing prior to the pandemic crisis. In particular China, with a forecast of fast economic recovery, opportunities to capitalise on the return of its academic diaspora and continued investments in HE and R&D, seems to be able to increase its weight on the global HE scene and thus to influence conditions for collaboration. Yet its growing assertiveness is meeting increasing resistance in the West. Redefining multilateralism between Europe, China and the US is a rebalancing act. Resulting new conditions will impact how open systems can be sustained for the global public good or perhaps, after all, rather as open markets.

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7. A comparison of Chinese and Anglo-American ideas about higher education and public good

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INTRODUCTION

The outcomes of higher education are both individualized and collective. Individual students acquire self-development, knowledge, skills, employability, larger earnings and/or social status. Some such benefits are measurable, like graduate rates of return, though higher education's larger contribution to agency is hard to assess. Higher education also provides common social resource such as scientific knowledge, faculty expertise that supplements government, distributed scientific literacy and technological expertise, equitable social opportunities, social tolerance and joint productivity. Individualized and collective outcomes overlap, as in the occupational training and civic socialization of graduates

As discussed in Chapter 2, both individualized and collective outcomes pose challenges of interpretation, with the challenges of collective outcomes the more difficult to solve definitively (Marginson, 2018a). In part it is a problem of observation. How do we assess education's contributions to tolerance or international understanding? In part it is a problem of lenses and instruments: economics, sociology and psychology identify different qualities of higher education. In part it is a problem of context: words, norms and practices in higher education vary on a national-cultural basis. The last is the present topic.

The Comparison

This chapter compares approaches in the Anglo-American and Chinese traditions to the outcomes of higher education, by examining the respective political cultures and higher education within them. 'Anglo-America' refers to the United States (US) and United Kingdom (UK). 'Higher education' includes systems, institutions and disciplines. 'Political culture' refers to the com-

pound of words, ideas, policies, institutions, regulatory structures, resource configurations and subjectivities that constitute the social order as relations of power. Society and education are observed via political culture because higher education is embedded in state and social organization. We examine the Anglo-American 'public' domain and the nearest parallels in China in order to explore similarities and differences in the approach to outcomes. 'Tradition' combines current practices and their lineage.

Why compare the Anglo-American and Chinese approaches? First, the similarities and differences matter. The three systems are globally important, and extensively engaged. For example, in 2018, researchers from the US and China co-authored 55,382 science papers, much the largest national pairing (NSB, 2020). There are also tensions which could disrupt relations in universities, science and technology, as noted in Chapter 8. Better knowledge of each other can facilitate cooperation and has strategic significance, especially in Anglo-America: Chinese language, ideas and institutions are less well known in the US and UK than those countries are known in China. (Hence discussion of China in this chapter is longer than discussion of Anglo-America.) Second, such comparisons help each party to understand themselves. As Walter Scheidel (2015) states in a review of the Han and Roman empires, comparison is a doorway out of parochialism: 'Comparison of alternatives makes the characteristics of one's "own" case seem less self-evident and helps us appreciate the range of possible alternatives' (p. 3). The comparison between China and Anglo-America is especially fruitful because it entails multiple differences, though this creates challenges. Third, such comparison helps in distinguishing common elements from nationally variant elements in higher education. The possibility that more than one tradition can contribute to higher education studies is intellectually liberating. Although Chinese scholars often draw on both Western and Chinese ideas, few Western scholars have done so.

The remainder of this introduction expands on the comparative method and its limits. The next two sections review the Anglo-American and Chinese traditions. The following section explores similarities and differences. The conclusion reflects on the comparison.

Theory, Method and Limits

Our framework rests on Amartya Sen's recognition of plural cultural identities (Sen, 1999b) and transpositionality (Sen, 2002). The transpositional method is premised on three steps. First, rejection of comparison based on a single cul-

tural standpoint or position. Second, exploration of multiple positions, in this case Anglo-American and Sinic. Third, a transpositional assessment:

> Observations are unavoidably position-based, but scientific reasoning need not, of course, be based on observational information from one specific position only. There is a need for what may be called 'trans-positional' assessment—drawing on but going beyond different positional observations. The constructed 'view from nowhere' would then be based on synthesizing different views from distinct positions. … A trans-positional scrutiny would also demand some kind of coherence between different positional views. (Sen, 2002, p. 467)

An older comparative social science explained all societies in terms of Anglo-American or Western norms and trajectories, seen as universally applicable. Methodological nationalism (Shahjahan & Kezar, 2013) blocks out features of other cultures that fall outside the template, or reworks the similarities as isomorphism and the differences as pathologies. Plural perspectives that enlarge the scope for explanation are an act of power and of comprehension. How then can actually existing diversity be combined without negating it? We use observe parallel phenomena through each lens, privileging each lens as little as possible, and combine what they see in an inclusive transpositional conclusion.

The specific study is of discourses of society, state and higher education, especially key animating ideas in the two traditions. 'Discourses' refers to scholarly treatment of the social domain, some of which enters policy. Discourses are knowledge formations that bridge the dyad of words/ideas and material activity. Discourses are more than groups of signs, they are 'practices that systematically form the objects of which they speak' (Foucault, 1972, p. 49). Ideas matter when manifest in systems, institutions and behaviours. The chapter remains with the words/idea side of the dyad, without reviewing material higher education practices in each tradition. This is one limit of the study.

A second limit is in the difficulty of achieving transpositional 'coherence' across the positional views. A symmetrical comparison is impossible. The traditions and discourses are not equivalent in internal composition, categories, external linkages and temporalities, and there are deep differences between these two particular traditions. 'Divergent paths were taken at a number of crucial moments in the development of Chinese and Western cultures.' Neither are fully comprehended through the lens of the other. Their 'problematics' are 'quite distinct' (Hall & Ames, 1995, pp. xiii–xiv). There are contrasts in mode of thought, concepts, premises, sensibilities and practices, especially in the social and collective outcomes of higher education. Anglo-American analytical-rational reasoning uses singular and bounded abstractions and fixed categories. It elevates theory above practical knowledge. Different Western thinkers make mutually exclusive claims to universal truth, with each con-

fident they have the tools 'for assessing the value of cultural activity everywhere on the planet' (p. xiv). The older Chinese tradition fosters conceptual openness; often uses analogy and correlation not linear causal reasoning; and naturalizes process and change, rather than fixed being and unique qualities as in Parmenides and Aristotle. It highly values practical knowledge. It combines heterogeneous ideas, like Confucianism and Daoism, and has a resilient continuity in which past ideas are less displaced. Its openness has facilitated partial Westernization (Huang, 2000). The Sinic imaginary is layered by ideas from different eras, including Western Zhou (1046–771 BCE) statecraft, successive iterations of Confucianism and monastic Buddhism; Marxist-Leninist Westernization led by the party-state, American Westernization and individualist-consumerist modernity. The indigenous element shows in the way ideas are combined. Differing temporalities shape the comparison. The Anglo-American tradition has long roots but formed after the Reformation and in successive iterations of liberalism. It more readily appears as a single piece. China's tradition is double-phased: the long Imperial evolution of language and thought, followed by modern Western influence and hybridities. The earlier discourse remains generative.

The transpositional method cannot be fully executed prior to the final 'transpositional assessment'. The prior comparison must start from a culturally specific position. This chapter is in English and starts with the Anglo-American 'public', looking for similarities, parallels and differences in China. There are practical reasons for this. Higher education is discussed in China in partly Western terms, with Chinese caveats. Nevertheless, it is essential to remember that 'public' originates in the Hellenic-Judeo-Christian heritage of Europe and its settler states, including Anglo-American economics and civic republicanism. If the comparison in the chapter was Sinic-led, Anglo-American liberty and civil society might be less important and Confucian humanism (*ren*), state-managed order, and relations between humanity and nature might be more important than is the case in this chapter.

A third limit is inner diversity. It is ironic that a chapter designed to highlight the diversity between traditions frames each monoculturally. In China the focus is primarily on Confucian and party-state practices, occluding other currents and regional variations. The Anglo-American account is also narrowly mainstream: at greater length it would expand on social democratic ideas, differences between English and American liberalism, and the influence of Republican France and Germany in Anglo-American political and educational culture.

ANGLO-AMERICAN IDEAS OF PUBLIC AND HIGHER EDUCATION

This section focuses on Anglo-American discourse on society and the outcomes of higher education, examining plural uses of 'public', and the public/private distinction.
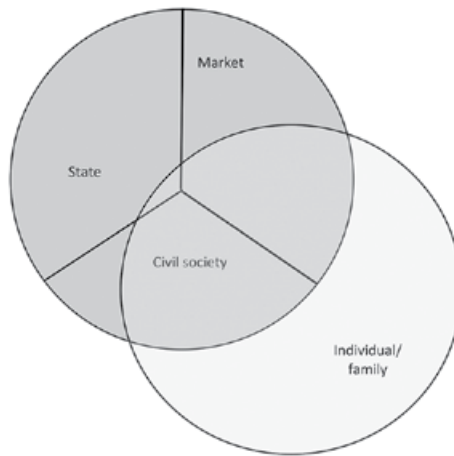
The Anglo-American Social-Cultural Imaginary

In the Anglo-American model of the social (Figure 7.1) two elements stand out: the division of powers, and the separated individual.

The state and the university

Western governance is rooted in divided powers. Despite periodic attempts to establish absolute rule, the Western state reverts to the default position of a limited state, the legacy of distributed political agency in Republican Rome, the post-Roman division between church and state, autonomous medieval cities and merchants, the evolution of law and electoral politics as both outside and joined to executive authority, and the participatory public assembly. Adam Smith sought to constrain the state while enlarging the space for both market (Smith, 1776/1937) and civil association (Smith, 1759/2002); though the separation between them was unclear and each overlapped with the household/individual. Modern Anglo-American society is divided between government-as-state, political authority with coercive powers; the economic market; public civil society (including churches) in a variable relation with the state; and the individual with ill-defined normative primacy. The state divides inside between executive, legislature and judiciary. Individual freedom is primarily freedom from state coercion, negative freedom. This overshadows positive freedom, grounded in the capability to act and achieve goals, and the state's role in fostering capability (Sen, 1999a). The boundary between the state and other spheres is endemically contested, tense and unstable. Anti-statism is a core theme of critical political discourse, especially in the US.

Within the division of powers, the medieval university established partial institutional autonomy between church and state, a space for scholarship and later for science. Like the church, universities saw their mission as universal, but they evaded absolute clerical domination by embedding themselves also in cities and states, while legal incorporation stabilized their autonomy. When modern government asserted itself in universities their regulated autonomy survived, codified in the Humboldtian ideal. The US university, while partly dependent on state funding, became positioned as both civic institution and market corporation. It is unclear whether English universities are creatures of

the state or civil society, though policy formally models them as private market corporations.

Figure 7.1 *Anglo-American spheres of social action*

Individuals and individualism

Medieval Western culture imagined the individual in a unique relation with God in which reflexive self-formation was articulated not via social relations, as in China, but imagined spiritual authority (Foucault, 2012). John Locke (1690/1970) saw a rights-bearing property-owning individual who stood alone, like John Proctor in Arthur Miller's *The Crucible*. The Enlightenment and French revolution founded the 1789 *Declaration of the Rights of Man and the Citizen,* and then *liberté, égalité, fraternité*. In Anglo-America liberty was the most compelling of the three principles, fraternity or solidarity was the least. Personal liberty was imagined as a distinctive space, still and inviolate, the 'free and autonomous individual separated from roles and communities' (Bell, 2017, p. 565). Ideally each person enjoys absolute self-realization, providing that no one else is harmed. In contrast with Confucianism, the first statement has greater normative potency than the second. Liberalism imagines 'a spontaneously cohesive society of equal individual rights, limited government, laissez-faire, natural justice and equal opportunity … individual freedom, moral development and dignity sustain self-regulating communities, grounded in common rights to separated property and self' (Lukes, 1973, p. 37).

A feature of Anglo-American thought is the resilience of what C.B. Macpherson (1962) calls 'possessive individualism', the atomized property

owner pursuing her/his own interests in a competitive world. This motif repeatedly returns, from Adam Smith to twentieth-century neo-liberalism (Hayek, 1960). In social science, especially economics, it is associated with methodological individualism, 'a doctrine about explanation which asserts that all attempts to explain social (or individual) phenomena are to be rejected … unless they are couched wholly in terms of facts about individuals' (Lukes, 1973, p. 110), suppressing from view not just collectivity but all social relations. 'Society' is just the aggregation of persons and all higher education outcomes are individualized outcomes. In education policy human capital theory (Becker, 1964) defines the value of higher education by the returns to individual graduates in the labour market. The student invests in education up to the point where the cost of education, including foregone earnings, equals the lifetime returns associated with the degree. Where government funding applies, the social value of education equals the aggregated value of the additional individual economic productivity.

Public in Society and Higher Education

Anglo-American meanings of public and the public/private pairing are multiple, diverse and confusing, as indicated by the long entry for 'public' in the *Shorter Oxford dictionary* (OED, 1993, pp. 2404–2405). This signifies the centrality of public in the political culture. Uses of the term fall into three categories. The first is the dualistic pairing of public with private as an analytical device: public and private are two mutually exclusive halves of a whole and the relation between them is determining. In the second use, public is a descriptive adjective, not excluding private, that signifies open and inclusive social relations. The third meaning is shared beneficence, as in 'the public good'.

The public/private dualism

The public/private dualism has two forms. One is public meaning government or state, as in the legally defined 'public sector', distinct from the private spheres of home, family, economic market and corporation – for example, state, government or public schooling is distinguished from non-state private schooling. Here, the term public is normatively positive for social democrats and negative for anti-statist libertarians. In Anglo-American polities there is no consensus on the desired extent of government provision and funding. However, the discussion is partly regulated by the second public/private dualism, from economics (Samuelson, 1954). Here society is divided into two parts: the market setting where private property and commodities are exchanged and private goods are produced, and the non-market setting where government-owned property is organized and public goods are produced (Ostrom, 1990). Public goods are goods that cannot generate profit because

they are non-exclusive or non-rivalrous and hence subject to market failure. They must be financed by states or philanthropy. This embodies the norms of a limited liberal state (Marginson, 2018a), maximizing the space for individual competition and markets by reducing the state to a residual role and occluding communal activity. Samuelson's formula is irrelevant in a society in which the state has a comprehensive, not limited, mandate, as in China; and breaks down when goods like higher education are shaped by policy not market forces. It also sidesteps government-controlled quasi-markets, combining market and state.

Nevertheless, the Samuelson dualism and human capital theory frame mainstream Anglo-American approaches to higher education. Education/economy relations are seen as a continuum of two markets: the competition of educational institutions for students, seen to enhance producer responsiveness, quality and efficiency; and the market in graduate labour. Students move from consumers in the education market to products in the labour market. Some public goods are 'externalities' or spillovers (McMahon, 2009) generated as by-products of investment in private goods – for example, citizenship, not rewarded in labour markets, which is acquired incidentally during education. Other public goods, such as basic research, must be government funded. Ideally, government spends the minimum necessary to sustain the higher education market. Some Anglo-American governments use data on the private rates of return to regulate a zero-sum private/public split in financing (Chapman et al., 2014). However, nowhere is the economic model fully implemented in practice. In Anglo-American polities, higher education has been variously defined on a spectrum from social democratic free public good, to market-defined private good. Yet all parties in Anglo-American polities accept the dualism. This entrenches a critical reflexivity in which freedom is associated with 'private'. Over time this erodes both kinds of 'public'.

Anglo-American governments spend more on the provision of higher education than a pure application of Samuelson's dualism would suggest, because of information asymmetry (prospective consumers that do not know what higher education entails are less likely to demand it), and resistance to tuition and tuition loans financing; and because of their own desires to expand social participation in education, which reduces unemployment while offering an opportunity structure, thereby sustaining the social order. Policies that set out to maximize participation and social access modify the extent to which higher education is rivalrous and excludable, departing from Samuelson's market. Here the public/private economic logic is supplemented by a second and different logic of public as inclusive social relations (see below). Nevertheless, as participation has risen, the share of costs borne by households has grown (OECD, 2020), because families are less likely to abstain from higher education. Meanwhile, public goods in higher education are neglected, aside from

basic research and equitable opportunity. Anglo-American policy economics does not compute the value of collective outcomes such as scientific and social literacy, or the joint contributions of educated persons to international relations, or social tolerance

There is ongoing pushback against narrow versions of the economic agenda. University leaders focus on institutional contributions to communities. Educators focus on the broader person-forming role of higher education. Nevertheless, the policy momentum remains with economic ministries that focus primarily on graduate employability and salaries.

The communicative inclusive public

The second public refers to broad or inclusive assembly (*the* public, public opinion) and open communications ('going public', public media, public relations). This public is not opposed to private, nor is it necessarily grounded in the state. The communicative public provides conditions for social interaction between individuals. Individuality can be more or less atomized, or collective and solidaristic, but there is a prima facie bias in favour of universal inclusion. Habermas (1989) identifies a 'public sphere' in the critical conversation on state policy and matters of the day in seventeenth-century London salons, coffee houses and broadsheets. The eighteenth-century republics, newspapers and urban protest created a collective polity in shared public space that led to electoral democracy. For Castells (2008) the public sphere is 'the space of communication of ideas and projects that emerge from society and are addressed to the decision makers in the institutions of society' (p. 78). Yet 'public' extends also to public companies with traded equity, and consumer markets where non-discriminatory inclusion maximizes customers. The public communicative role of privately owned social media blurs the lines between public/private, and polity/economy. Viral messaging is displacing public meetings and slow inner party debates (Runciman, 2018). States call on Google and Facebook to assist inclusive regulation and information dissemination, for example during the COVID-19 pandemic in New York (Klein, 2020).

The communicative inclusive public has resonances in higher education, which constitutes open social participation and fosters democratic agency (Sen, 1999a). Universities are strongly networked and often central in local communities. Pusser (2011) presents universities in Habermasian terms as semi-autonomous adjuncts of state, harbouring constructive criticism, policy ideas and transformative social movements. In the ongoing division of powers, the critically minded university is an analogue to a free media and independent judiciary, as a counter to majoritarian populism.

The universal public good

The inclusive communicative public is almost synonymous with whole of society, and shades into the third meaning of 'public' as 'the public good', a condition of common and universal welfare, virtue or prospect (Mansbridge, 1998). One root of this idea is the feudal European commons, a shared resource like a river or pasture. Claims about the public good have rhetorical power but there are competing interpretations of universal value. The state has the only general mandate but in Anglo-America there is scepticism about its claims to embody the public good, while its economic public goods are narrow. UNESCO has developed the notion of common good in education (Locatelli, 2018), grounded in Western European civic democracy (see Chapter 10). Here the collaborative community defines outcomes, which are jointly produced and democratically distributed. Common goods foster welfare, solidarity, inclusion, diversity, tolerance, universal freedoms, equality and human rights (Deneulin & Townsend, 2007, p. 24). Both state and non-government organizations can contribute to the common good, though the latter may require state regulation to ensure equitable inclusion (Locatelli, 2018, pp. 8, 13). However, the common good(s) idea has greater salience in Europe than Anglo-America, where civil society is extensive rather than universal and harbours inequalities of power based on stratified economic resources.

A key question about public or common good(s) is the boundary: city, local region, nation, global region, world. Shared global goods include knowledge and ecological security. Kaul et al. (1999) define global public goods as 'goods that have a significant element of non-rivalry and/or non-excludability' and are broadly available on a global scale (pp. 2–3). However, Anglo-American political culture struggles to imagine public goods beyond the national border where there is no state. The UN agencies and OECD pursue their agendas via nation states. Where global universities range beyond borders they are defined as private corporations. In a multilateral framework, global public goods are nothing more than transferred national public goods, assembled piece by piece rather than conceived as a whole. This marginalizes the role of global systems that are not reducible to bordered nations, such science networks, and downplays global problems and solutions. But the legitimacy of governments is derived inside not outside their countries (Wang, 2017). They prioritize national over global goods and often free-ride on spillovers from abroad.

In Sum: the Anglo-American Approach

The Anglo-American social imaginary is a changing patchwork. The individual has an ill-defined primacy. Beyond that there is no essential primacy of state, market or civil society. The division between them is variable. However, the state/non-state boundary is always inherently conflictual. In higher edu-

cation the economics of private/public goods force an individual/collective trade-off that narrows individual benefits and limits the scope for collective goods. The core responsibility of the state is to residual collective goods, not the universal public good. The exception is social inclusion where, consistent with the inclusive-communicative public, government and higher education are seen to have larger obligations, and from time to time in policy, equity trumps economically defined value.

CHINESE SOCIAL RELATIONS AND HIGHER EDUCATION

This section discusses the social imaginary and political culture in China: the state, individual and collective, the pairing of *gong/si* (roughly, public/private), and higher education.

The Sinic Political-Cultural Imaginary

China's political-cultural imaginary derives from the Zhou dynasty and Confucian-Daoist ideas prior to the Qin dynasty unification in 221 BCE. The model is integrated, with no division of powers. The individual is secured inside social relations. Society consists of nested spheres (Figure 7.2), ascending in dyads of smaller self/larger self (*xiaowo* and *dawo*).

The traditional Sinic family, the primary sphere below the state, is larger than the nuclear family, with several generations living together led by a single elder. The system is flexible; spheres can be larger or smaller in size and scope. Outer spheres have normative primacy over inner spheres, relativizing the individual successively to the collectivities of family, state and society, and *tianxia* (all under heaven) (Tu, 1985). The system privileges social order, and family and state as embodiments of order. People are formed ethically as loyal to family and state, valuing others and maintaining the justice of the state (Liu, 2011).

The state and higher education
The Sinic state is a comprehensive state, not a limited liberal state. From the Zhou dynasty onwards statecraft and politics were supreme over other domains, including the landowning aristocracy, merchants, cities, professions, the military and religion (Zhao, 2015). The core duties of the Imperial state were social order and prosperity. If it faltered it lost the 'Mandate of Heaven' and consent was withdrawn (pp. 52–55). However, except during the Republic (1911–1949) when some Western forms were used, the state could intervene anywhere. Civil society was always managed. 'Unlike in Roman cities with their assembly places and theatre, in Han cities people gathered in markets,
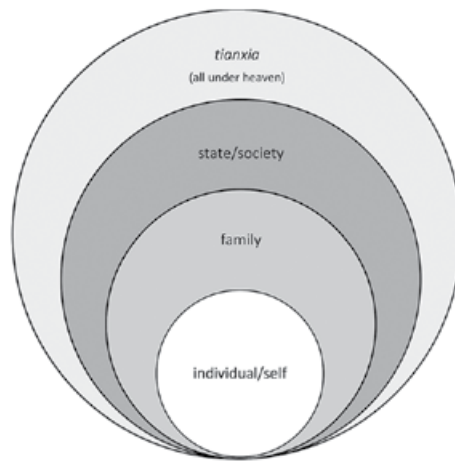
Source: Authors, following Tu (1985).

Figure 7.2   Confucian spheres of social action

which served as a conduits of state control' (Scheidel, 2015, p. 8). The vast Imperial countryside was held together by voluntary compliance with the shared Confucian moral order (Liu, 2011). The state set rules and collected taxes but its direct writ stopped above the village. Rather than a division of formal powers the state evolved forms of devolution that sustained its authority, with centrally formed cadre deployed as regional officials. The Imperial state oscillated between periods of opening and civil freedom and periods of tighter control. The 1949 revolution created a cohesive and focused Leninist party-state with closer reach into the household and more capability in social engineering. Devolution and the oscillation between liberalization and control continued (Mühlhahn, 2019).

While the European university shaped an autonomy between church and state, China's higher education took another path. The Imperial academies prepared scholar-officials. The *keju*, examination of candidates for merit-based entry into the civil service, emerged in the Sui dynasty (581–618 CE) and consolidated under the Ming (1368–1644) (Elman, 2000). Academy graduates became provincial and district leaders. This was the main means of social mobility, though it required advanced cultural capital, grounded in the classic texts. The academies valued knowledge not as theory, or theology, but for its application to governance. Seventeenth- and eighteenth-century Jesuit priests who visited China and returned to Europe reported on higher education nested in state administration, and written examinations, affecting reforms like the *Grandes Ecoles* in France (Hayhoe & Liu, 2010).

The private *shuyuan*, originating in the Tang dynasty (618–907 CE) and spreading under the Song (960–1279 CE), were a secondary form of higher education mostly independent of the Imperial government, with a lesser role in social mobility. Influenced by Indian Buddhist monastic scholarship 'they were places of broad and serious learning for the sake of deepened knowledge, not merely career or political advancement' (Hayhoe, 2019, p. 183). Used by scholar-officials as retreats, at times the *shuyuan* were gathering points for critics of the regime, paralleling the Western public sphere, though they lacked a legal charter. Other forms of constructive criticism, stretching back to the Zhou (During, 2020), included the Jixia Academy, which provided unconstrained advice to the kingdom of Qi (Hartnett, 2011); and from time to time, notably under Tang Emperor Taizong (598–649 CE), officials named *jianguan* had freedom to make comments and criticisms (Zhao, 2000; Chen, 2001).

Individual and collective

In Confucian thought an absolute self, separate from society, is impossible (Cheng & Yang, 2015). In Imperial times individuals were not seen as independent social agents with rights and liberties. The Confucian self (*wo*) is a relational and role-bearing individual within larger collective groups, especially the family. 'Confucian "individualism" means the fullest development by the individual of his creative potentialities', not for 'self-expression', but to best fulfil his role 'within his social nexus' (Bell, 2017; Bodde, 1957, p. 66). A central value of Confucianism is individual development (Lee, 2000) through self-cultivation, ethical formation via the working of self on self, first in the family and then education (Li, 2012). The key moment is the formation in every child, typically at six or seven years, of *lizhi*, the reflexive commitment or 'will' to learn (p. 163). Confucian learning is about more than knowledge, it concerns how to live in a relational setting and how to improve oneself. People do not have fixed talents that shape their lives. The self is a process. The crucial element is reflexive effort, including the cultivation of free will (Cheng, 2004). Confucianism distinguishes between free will, *zhi*, the inner self of moral autonomy, and the outer social self. Persons do not enact their will if there are negative social consequences. Self-determination is absolute but self-realization is not. Practising free will is seen not as an absolute right but a good thing among other good things (Chan, 2013).

While the role-bearing Confucian individual is the foundation of Sinic social order, the primacy of outer over inner spheres is the foundation of Sinic collectivism. Instead of a zero-sum dualism of individual/collective there is embeddedness at each level, an ascending scale of collectivism, with people nested in the social order by self-made individuality steeped in Confucian values. Family and formal education are closer than in the West. Imperial

schooling was organized in kin groupings (*sishu*), and today's parents are very active in decisions about higher education.

Tianxia

Tianxia is the unified human and natural sphere, a larger civilizational zone than the state, though it can refer either to the whole world, or to Chinese civilization and beyond. It embodies the Confucian movement from *qin qin*, affection for one's kin, to *fan ai Zhong*, affection for all humanity as one community. It is continually changing. *Tianxia weigong*, 'all under heaven is for all', or 'all under heaven belongs to all', is more central to Sinic thought than global common goods in Anglo-America. Wang (2017) contrasts the zero-sum nations in Europe, which embody an opposition between I and non-I or other, with *tianxia* which has diverse selves but no other.

Tianxia suggests 'a system of governance held together by a regime of culture and values that transcends racial and geographical boundaries' (p. 1), and harmony and peace on the basis of respect for diversity (Duara, 2017). Unity in diversity, or harmony in diversity (*heer butong*), requires not just tolerance but mutual understanding, respect, dialogue and trust (Fei, 2015).

Correspondences to public and private

Relations between each larger self/smaller self (*dawo* and *xiaowo*), such as the pairing of family/individual, or *tianxia*/state, are pairings of *gong*/*si*. Confucius and Mencius differentiated *gong* and *si*. *Gong* took on multiple meanings, including non-individual, public, common, universal, openness, fairness, all humankind, the state. *Si* invoked private, personal, selfish and secret. In the Northern Song, *gong* referred to righteousness while *si* stood for private goods and personal desire. Ideally there was no conflict, as the individual internalized social values (Huang, 2005). Where there was tension between public and private interests in Imperial China the task was to satisfy both. In continuing conflict, *dawo*, the larger collective, was supreme (Cheng & Yang, 2015). However, many scholars argue that *si* was and is under-recognized and the individual under-protected (Huang & Jiang, 2005).

The dual of *gong* and *si* correlates to public and private in one respect: each movement outwards from a smaller to a larger circle enhances publicness. While the Anglo-American public references the state, *gong* is embodied in the Sinic state. There are also differences. *Gong* and *si* are coexistent and relational; while in the public/private dualism, each signifies unique essences that cannot coincide and are related by being not the other. Like other keystone words in Chinese, *gong* is inclusive; the multiple meanings of public signify not inclusion but ambiguity. Just as the Confucian individual is nested in social relations not ontologically separate, *si* is nested in *gong*, not paired with it zero-sum as in public/private. In China *gong*, the domain of harmony and

social order, has normative primacy over *si*. In Anglo-American individual liberty might be valued above universal public good.

Other correspondences to Anglo-American lexicon are more elusive. There is no Chinese equivalent of 'goods'. The literal translation of 'private individual interest', *yi ji zhi si*, carries a negative connotation of selfishness. In the weaker civil society in China there is no equivalent of the communicative inclusive public domain. *Gong* is more readily identified with the Chinese state than is public good with Anglo-American states.

There is a language for discussing *gongde*, meaning public virtue. The foundation is Confucianism's five constant virtues (*wuchang*): benevolence and humanity (*ren*), righteousness and rite (*yi*), propriety (*li*), wisdom (*zhi*) and integrity (*xin*). The *Book of Rites* describes a society inclusive and equitable, a meritocracy, foreshadowing a role for education in creating this. *Gongzheng* (fairness) and *gongping* (equity), pertaining to the role of education in fostering social inclusion, include *gong*. For Confucius education was the route to self-betterment. Any person, from any background, was capable of advanced learning. During the Republic after 1911, Western ideas of equity in education, grounded in equal rights and freedoms, took root (Yang, 2011); and after 1949 the egalitarian temper of the Communist Party of China (CPC) reinforced the goal of equal access (Ding, 2007).

Gong and *Si* in Modern Times

In modern China the ascending Confucian circles no longer adequately describe the social order. The autonomous individual has greater salience (Yan, 2009), and the comprehensive Chinese state is stronger (Figure 7.3). Understandings of *gong* and *si* are less stable.

The party-state
The party-state is more effective than was the Imperial state. The CPC is organized by Leninist democratic centralism (Liebman, 1975): once an issue is resolved the whole party is committed to its disciplined implementation. A small group of leaders can steer the polity. The party-state is also a micro-manager using comprehensive surveillance. In the Mao Zedong era the CPC took Leninist forms into rural communes, work units (*danwei*) in the cities and higher education institutions, conflating state and society (Fewsmith, 1999, p. 70). In Deng Xiaoping's deregulation and opening up after 1978 the party-state retained control; the first entrepreneurs were often party cadre. There is no Western-style division of powers. Party and state are formally separated but not independent and no one doubts the party is dominant. Nevertheless, Leninist centralism is vulnerable to one-way information flows

in which ambitious cadre tell the next level only what it wants to hear, and surveillance systems are burdensome when control is being tightened.

The party-state functions as the wide-reaching collective expression of society, whereas in the West the public sphere of open communication performs that role. In the 1980s the party-state enabled internal diversity and democratization without destabilizing the social order, with instances of open political debate (Vogel, 2011) and a 'semi-civil society' in non-government organizations and public arts (He, 1997). Later the local party-state annexed civil organizations to governance as a consultation mechanism while limiting criticism (Teets, 2014). He (1997) refers to the 'fragile autonomy' of intellectuals (pp. 147–165). In China the inclusive democratic public is more attenuated than in Anglo-America. Civil society is not ongoing but episodic, opening up and closing down by turns, and vulnerable to surveillance, suppression and co-option. Broad-based social discussion through the Internet, social media, other media and wall posters are regulated and often restricted. However, there are continuous communications inside party-state networks, including the universities.
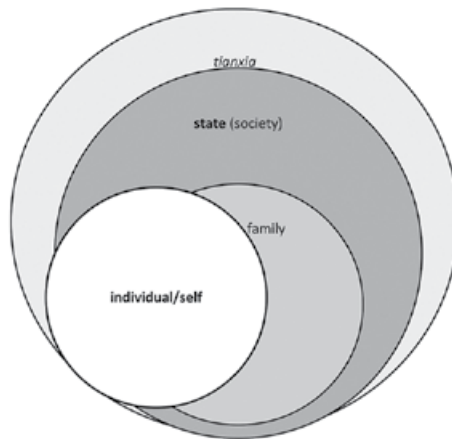
Source: Authors, adapting Tu (1985).

Figure 7.3   Post-Confucian spheres of social action

Individual and collective

In 1949 Marxist-Leninism offered a modernization path that, crucially, was free from direct foreign intervention (Meisner, 1977, p. 19), while the collective character of the CPC, in which individuals were deeply loyal to the larger group, matched Chinese tradition more closely than did Western individualism

(Fu, 1974). Nevertheless, the party-state drove successive upheavals in the Confucian social order. Mao's rural and urban work groups broke up kinship networks; and from 1978 Deng Xiaoping's de-collectivization, partial deregulation, accelerated economic growth and private enrichment triggered another transformation. The family partly revived, some Confucian values were re-endorsed, but market capitalism fostered individuality, and migration from the country to the cities and the one-child policy accelerated fragmentation of the large kinship family and its replacement by the conjugal family of two or three generations based on the married couple (Yan, 2009). Single migrant workers in the cities, mostly male, disembedded from families and localized bonds, were freed from social obligations (King, 2018) or more reliant on horizontal *guanxi* ties at work.

There are many signs of autonomous individuality. Difficulties in identifying the smaller self (*xiaowo*) and larger self (*dawo*) have eased the pursuit of self-interest without commitment to the collective *gong*. The ubiquity of the profit motive, in the context of rising incomes, economic inequality, pro-capitalist policy and the partial eclipse of communal values, is much discussed (Zang, 2011). Yet the individual is nested in a complex of networks based in kin, ethnicity, region, school, work, professional and guild-like structures, religious associations and market transactions. Some such bonds extend abroad. How much has the collective/individual balance shifted? Researchers differ. Lu (1998) identifies both a tendency to utilitarian individualism and enduring collectivistic values. The parent–child bond remains strong, as shown by parental investment in shadow education (Zhang & Bray, 2017) and close enagement in education decisions. The Chinese individual has a different lineage to the Anglo-American individual. Though there are convergences around modernization, mobility, economic accumulation and smaller families, China has distinctive social settings and inner mentalities. Yan (2009, p. 273) refers to a 'Chinese model of individualization that excludes cultural democracy, welfare state and individualism' in the Western sense. Self-making in China is less about lifestyle and personal politics, more about social status and material life. Identity matters when it determines opportunities (p. 288): like the Imperial dynasties, the party-state allocates social rank and station on the basis of social category, for example the differentiation of the population on the basis of *hukou* (household registration) status. The party-state is a collective *dawo*, a meta-identity offering leading cadre families mobility in all forms, including passage to elite universities.

Higher education

After 1990 the party-state rapidly built a tertiary education system enrolling 50 per cent of young people (UNESCO, 2020) and the world's largest science output (NSB, 2020). Leninist centralism combined Western modernization

with Chinese tradition. Deng Xiaoping emphasized learning from abroad, especially the US. Foreign universities and scientists were invited into China, students and faculty went abroad and universities and disciplines were benchmarked against world leaders (Wang et al., 2011). This 'national/global synergy' (Marginson, 2018b) accelerated development. Modern Chinese universities look like Anglo-American universities in degree structure, curriculum, the doctorate, executive leadership and corporate forms. They house Anglo-American-European disciplines, though with greater emphasis on physical sciences and engineering. However, China's universities have been Westernized not by external colonization but by state-driven catch-up. Education and science are firmly nested in policy. Tensions between Westernization and old and new Chinese norms (Yang, 2014) are internal, self-imposed and can be tuned by the party-state.

There is continuity as well as modernization. The party-state taps into inherited political culture. Elite universities, driven by continuous self-improvement, fulfil the Imperial mission of preparing graduates for government. As before, knowledge focuses on practical national needs, now in urban construction, communications, computing, transport and energy. Like the Imperial dynasties the party-state engages more directly in institutional governance than do Anglo-American states. Semi-independent *shuyuan* currently have little presence. A university wholly outside the state is unimaginable. Issues of university autonomy and academic freedom play out within the state not on the state/society boundary. The literal translation of 'university autonomy' is *zizhi* but the term mostly used is *zizhu*, self-mastery. This belies the idea that because universities are nested in the state, they are simply subordinated with limited freedom to act. Rather, they exercise *zhu* (mastery) while interacting with the state. In China *xueshu ziyou* (academic freedom) is understood as unconstrained freedom to conduct research as well as *sixiang ziyou* (intellectual freedom). Faculty exercise social responsibilities with high status, within the tradition of knowledge linked to action and the public good (Hayhoe & Liu, 2010). However, the humanities and social sciences are more politically constrained than the sciences (Shambaugh, 2013, p. 244).

'Public' and 'private' in higher education

Interviewing state officials, university leaders and faculty, Tian and Liu (2019) found a large sense of public as state, a weaker idea of public/private as in Anglo-American economics, and interest in global common good. Interviewees understood higher education as part of 'the public service sector', nested in government and pursuing social order and prosperity. Interviewees agreed the state had comprehensive responsibility for planning, funding and development, while universities were autonomous in education, student selection and management. Research was contested. Faculty emphasized market-like

elements such as tuition fees, institutional competition and selective entry into elite universities, some using the term 'quasi-public good' (*zhun gonggong wupin*), derived from Anglo-American economics (policy research on higher education uses human capital theory; e.g. Li et al., 2012). For interviewees, fees and corporate universities did not imply a more limited state or reduce the scope or obligation of higher education to generate collective outcomes. As elsewhere, there were concerns about marketization eroding the mission of universities and the ethical formation of graduates. However, in China the self-betterment of individuals is part of the collective contribution of higher education, not opposed to it. Likewise, parents want their student children to fulfil the collectivist Confucian self, as well as better themselves materially.

Tian and Liu (2019) argue that notion of the 'common good' fits higher education in China better than the notion of the 'public good' because of the ambiguity of public good, and the long history of collective forms and grass-roots democracy in China (Wang, 2012). Some of their interviewees saw this in global terms, referencing Xi Jinping's 'community of shared future for mankind' (*renlei mingyun gongtongti*). *Tianxia* eases recognition of the global and the ecological in the mainstream of political culture. As noted, in the US and UK, global higher education is marginal to national and local higher education and viewed through the lens of methodological nationalism. Beyond the national and cultural boundary lies the other. In China, what lies beyond the national boundary is the shared space. Few globally engaged Anglo-Americans learn Chinese. All Chinese faculty learn English.

On the other hand, with the communicative inclusive public less developed there is limited scope for universities to function as Habermasian public spheres. On one hand professors enjoy greater standing and effectivity in government than their Anglo-American counterparts and many routinely provide critical advice on policy, like the *jianguan*, the sage speaking truth to power behind closed doors. On the other hand, their role in public dialogue is more fraught. Peking University ('Beida') has a special status as the starting point of political movements from May the Fourth in 1919 to Tiananmen in 1989 (Hayhoe & Zha, 2011) but the party-state shuts down activism when its rule is unstable. In 2019 references to academic freedom were removed from the laws governing Fudan, Nanjing and Shanxi universities. The leadership of Peking University was unilaterally changed so as to tighten political control. Perhaps with half of the young people now entering tertiary education, the party-state's problem of order has been enhanced. In the last decade the state has stepped up the intensity of its micro-control of persons, so alien to Western liberalism. Individual agency in China has been both augmented and constrained. A new balance between state, civil society, social obligations and persons will need to be found.

In Sum: the Chinese Approach

As in Imperial times the default position is the primacy of the collective *gong* in China, and the state as its meta-agent. The state has comprehensive reach and a mandate for arbitrary intervention across its field of observation. It affects all the outcomes of higher education. Confucian self-cultivation instils personal responsibility for outcomes, as in Anglo-America but by a different route. Yet nesting the individual in family and society avoids the individual/collective trade-off, though the scope for individuality is increasing. Higher education is constrained in the communicative public sphere but has global scope. Limits to the collective public are directly political rather than discursive as in Anglo-America.

CONCLUSIONS

The chapter has investigated higher education outcomes via the lens of Anglo-American public and private good(s) and the nearest Chinese equivalents. Table 7.1 summarizes the respective approaches to society, state and the individual and collective outcomes of higher education. The table identifies presences and gaps, helping each tradition to see itself more clearly, Scheidel's (2015) rationale for the comparative mirror. In usages of 'public', with its partly contrary meanings, the traditions do not closely align.

In relation to public as government or state there is overlap, but the states are not equivalent. The Anglo-American public/private dualism has resonance in understandings of higher education financing in China, though without limiting the potential of the state or collective goods. The informal Anglo-American communicative public, the democratic assembly outside the state executive, is submerged in China where law and civil society are state controlled, weakening higher education's potential in unmediated social relations. There is closer equivalence between *tianxia weigong* and the Anglo-American global good but the latter is marginal. China has more lexical and political tools for making collective goods in higher education, yet state action is less fecund or equitable than might be expected, and non-state collective goods are restricted. In Anglo-America collective potentials beyond the state are more open, yet the potentials of state action are decisively limited. In each case the limitation is long-standing and fundamental to the tradition.

Both traditions can imagine a socially productive state, but the Anglo-American state is always contested because of its potential to encroach on the separated individual freedom protected by the public/private dualism. The dualism positions non-private collective outcomes provided by the state as universal and inclusive, but of intrinsically lesser value than private individualized outcomes. Ideas of the invisible hand, market spillovers and economic

Table 7.1   *Anglo-American and Chinese approaches to society and higher education*

Category	Anglo-American	Chinese
Normative primacy	Individual	Collective (*gong*, larger self)
The state	Limited, contested, division of powers	Leading, comprehensive, without limit
Civil society	Large, open, inclusive, continuous, part regulated by state and private power	Smaller, episodic, bounded by supervisory state
Global	World beyond nation-state a function of nation	*Tianxia*: long-standing all-inclusive natural and human realm
Higher education	Western university tradition	Combines Leninist politics, American model,* Sinic tradition
and state	Regulated autonomy arm's length from state, some tension	Regulated autonomy nested in state, less tension
and civil society	Open-ended, self-regulated relationship, potentially active	Constrained by state supervision of both sectors
Individual outcomes and responsible agent	Employment, social position: individual/institution	Confucian person, employment, social position: family/individual
Collective outcomes and responsible agent	Social equity and research: state (other collective outcomes little defined)	Order (includes equity), stability, prosperity, science: state
Global common good and responsible agent	Faculty in networked global research system address global problems	State policies further global science and One Belt One Road cooperation

Note: * Residual Soviet Russian and French influences (specialized institutions, research academies, normal universities).
Source: Authors.

value as the proxy for social value, confirm the subordination of collective good. Outside the state civil society, a realm of free association, generates collective goods but it is highly unequal and partly fashioned by self-referenced global communications companies.

The ambivalence and ambiguity are absent in China. The state is loosely equated with the collective *gong* of society, containing all individual and collective outcomes of higher education. Western thinkers consistently misunderstand China's political culture because they read it in terms of the Western tension between individual and collective. This is absent in China, where the individual is nested and expressed within the collective. Likewise, there is no essential tension between the individual and shared benefits of higher education. However, the state-shaped *gong* does not fully comprehend either civil society or the constructive potential of knowledge in higher education for social communication and reflexive criticism. China's trade-off is not between

Table 7.2   *Integrated transpositional (Anglo-American plus Chinese) outcomes of higher education*

Social domains	Individualized outcomes include	Collective relational outcomes include
Person	Graduate financial benefits; social position; self-formation of agency immersed in knowledge	Relational qualities of graduates, e.g. Confucian personhood, citizenship, tolerance of diversity
Family and horizontal sociability	Realization of combined family investment in education for social esteem and reproduction	Family-based and *guanxi* social networks with shared cultural resources and attributes
State (government)		Prosperity; social order; faculty contributions to government
Economy		Contributions of higher education's knowledge, skills, entrepreneurship, coordination, throughout economy
Civil and communicative society		Inclusive social opportunities; social literacy; urban communities; civil society; arts; free social criticism
Tianxia (combined human/ natural world)		Cross-border relations; global knowledge and research; global sustainability

Source: Authors.

individual and collective – it is between different potentials of collectivity, between the state monopoly of the social and other forms of collective association beyond the family, with their fluctuating potential for diversity. Near universal Confucian self-cultivation creates rich possibilities for the contributions of higher education but these are routinely reduced by blanking out its civil potentials. This also reduces pressures on the self-auditing state to deliver. China's party-state is little more energetic in defining collective outcomes than is the Anglo-American state. Collective good is what is generated by the state; what is generated by the state must be collective good. Despite its remarkable achievements in modernization and university building the state's contribution is more modest than its authority, as in Imperial times.

Nothing stays the same. China might be moving to a new relation between individual and collective, with the growing individual agency still nested in social values. Though the party-state resists the full codification of human rights, state policies in higher education foster agency on a massive scale. It might be possible to transcend *gong/si* so that both individual and collective have priority, without one encircling the other – reaching the coupling of indi-

vidual agency and social solidarity by a different path to the Nordic. However, amid the perpetual oscillation between liberalization and tighter control, the universities are under closer surveillance and their collective social potentials confined. This denies the irreducibly multiple quality of social relations, the diversity of association, ideas and identity (Sen, 1999b), provided in Chinese tradition. Even a comprehensive state is only one social circuit. It is impossible to realize the normative project of containing all of individual, family, economy, civil networks and universities within a single central political identity.

Anglo-America is on another path. Higher education policy discourse is moving to extreme economism and individualism, marginalizing the public and collective except in research. Broader person formation gains little attention. Social equity primarily means access to private goods, not social distribution. Yet the communicative and relational public suggest a more advanced role for higher education and take higher education beyond economic public goods. Universities remain places that can initiate cultural transformation.

The comparison 'provides an opportunity for mutual enrichment by suggesting alternative responses to problems that resist satisfactory resolution within a single culture' (Hall & Ames, 1987, p. 5). This is facilitated by integrating the two sets of discourses into a transpositional viewpoint (Sen, 2002), enabling an inclusive presentation of the individualized and collective outcomes of higher education (Table 7.2).

Transpositional Viewpoint

Neither separate set of constructs can achieve trans-position. Key elements in each tradition, such as individual and state, carry differing normative baggage. In Anglo-America it is impossible to derive one meaning of public within the political culture, or apply public elsewhere without the limited liberal state and public/private dualism. Likewise, in China, the pairing of *gong* and *si* and nesting of smaller selves (*xiaowo*) in larger selves (*dawo*) is Sinic-specific, fitting some societies better than others. It enables a variable level of autonomy for each *xiaowo*, for example the individual vis-à-vis family and state, but the agency of *xiaowo* is always the gift of *dawo*. The *gong/si* world favours top-down relations against bottom-up agency, weakening the potential and rights of the individual and of grass-roots communal democracy, UNESCO's common good, vis-à-vis state order. To more fully enhance bottom-up agency it is necessary to relax or move outside *gong/si*.

These assertions and omissions, though specific to each culture, not universal, suggest components of an integrated position. Anglo-America highlights the individual, distinguishes state from society and economy, and foregrounds civil communication and organizations in its largest public domain. Sinic tra-

dition distinguishes individual from family, highlights the collective, defines the state as positive not a subtraction from the non-state and nominates *tianxia*. Table 7.2 is applicable to observation of social relations, and higher education outcomes, in both Anglo-American and Chinese settings. No outcomes in either tradition are excluded by the categories used and there is no conflict between the traditions.

It is always possible to establish a logic of contradiction, as in the public/private dualism. That is the one element in both traditions not included in the table. It is incompatible with transpositionality as it blocks many collective outcomes from view.

Next steps are to extend Table 7.2 to more political cultures, ultimately creating a worldwide transpositional framework for higher education outcomes, grounded in unity in diversity (*heer butong*).

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8. US–China collaboration in science for the global common good

John P. Haupt and Jenny J. Lee

INTRODUCTION

Science and technology (S&T) cooperation has played a central role in US–China relations since the two countries normalized ties in 1979 (Suttmeier, 2014; Xiaoming, 2003). Over the last four decades, a complex web of S&T relations has emerged between the countries enhancing both countries abilities to engage in S&T and to contribute to global common goods (Marginson, 2018b; Suttmeier, 2014).

S&T cooperation between the two countries has occurred through several channels, including government, corporate, and university. Government-level cooperation has occurred mainly through the Agreement on Cooperation in Science and Technology, which over the last 40 years has grown to consist of nearly 30 agency to agency protocols promoting both basic research and technical cooperation in a range of scientific disciplines including but not limited to agriculture, energy, environmental protection, public health, and nuclear safety (Suttmeier, 2014; Xiaoming, 2003). Government-level cooperation has focused on increasing the supply of public goods and reducing public "bads," such as environmental pollution (Suttmeier, 2014). Corporate-level cooperation, on the other hand, has occurred through commercially oriented cooperation between US and Chinese companies engaging in the production of private goods through joint research and development (R&D), foreign direct investment, and technology transfers (Xiaoming, 2003). Finally, university-level cooperation has occurred through cross-border student and scholar mobility and cooperation in scientific research with the former helping grow the latter (Suttmeier, 2014; Xiaoming, 2003). University-level cooperation has resulted in significant contributions to both individual and collective global common goods, especially in relation to their contribution to knowledge production and universal global science (Marginson, 2018a; Suttmeier, 2014; Wagner et al., 2015a).

Recent US–China geopolitical tensions have threatened S&T cooperation between the two countries at all levels. This is especially concerning considering that the two countries are the largest producers of scientific knowledge and collaborate more with each other than any other country (Nature Index, 2019). During the Trump administration, the US scientific community faced numerous enactments to limit engagement with China, such as more stringent disclosure measures and limiting travel visas (Feng, 2019; US White House, 2020). There were also tensions as evidenced by ongoing political rhetoric from the US White House regarding the source of COVID-19 and skepticism about international researchers' intentions as potential spies (US White House Office of Trade and Manufacturing Policy, 2018). Yet despite these warnings, the US and China-based researchers continued to increase their levels of collaboration, including on COVID-19 (Haupt & Lee, 2021; Lee & Haupt, 2020; 2021). While this past research has focused on the potential impact of geopolitical tensions on US–China collaboration, it has not considered the ripple effects that such strains may have on knowledge production within the global knowledge network (Wagner et al., 2015b), and ultimately, the impact this may have on the ability of scientists to contribute to global common goods. In fact, US–China collaboration is especially far-reaching when considering the importance of science-based research in addressing current and future global problems that require multicountry, international cooperation. Thus, this chapter seeks to provide greater insight into how US–China S&T cooperation contributes to global common goods with special attention being paid to how university-level S&T cooperation between the two countries has contributed to the global collective common good of universal global science.

To do so, this chapter examines trends in cross-border student and scholar mobility as well as trends in US–China research collaboration in scientific research, much of which is produced by higher education institutions and academic researchers in both countries (Chen, 2012; NSB, 2020). According to the US National Science Board (NSB), higher education institutions are essential to the overall research and development (R&D) system, contributing about 10–15 percent of total US R&D, including about half of all US basic research (NSB, 2020). The chapter begins with a discussion of the growth in Chinese graduate student and scholar mobility and how this has contributed to growth in US and China research output as well as growth in ties between the two countries. Then, it presents original US–China co-publication data gathered from Scopus to examine US–China S&T research collaboration patterns between 2001 and 2020. Data are analyzed in relation to the ways in which cooperation between the two countries contributes to universal global science; subject area trends identify the leading global goods being co-produced by the US and China over the past two decades. The chapter ends with a discussion on the extent to which geopolitical tensions may shape US–China cooperation

and their capabilities to produce scientific knowledge and, ultimately, contribute to global common goods.

Cross-Border Mobility, University-Level Training, and Knowledge Production Capabilities

Universities play a central role in scientific training, including across borders. This is especially the case for the US and China. Chinese student and scholar cross-border mobility in higher education has long been a part of US–China S&T cooperation (Suttmeier, 2014; Xiaoming, 2003). In particular, the training of Chinese scientists in US universities has served as a means to grow each country's S&T human capital base and to expand both countries' capacities to produce scientific knowledge (Cao et al., 2020). Moreover, it has played an important role in the growth of scientific collaboration between the countries (Suttmeier, 2008). The extent of cross-border mobility can be seen in the increasing number of Chinese students studying in the US over the last 40 years. Between 1978/9 and 2019/20, the number of Chinese students enrolled at US universities rose from 1,000 to 372,532 annually (IIE, 2020). Amongst this growing number of students has been an increasing number of Chinese pursuing S&T graduate degrees in the US. According to the most recent data, in 2018, there were 84,480 Chinese graduate students pursuing S&T degrees at US universities representing approximately 36 percent of all international students pursuing S&T graduate degrees in the US (NSB, 2020). Specifically related to doctorate degrees, from 2000 to 2017, 66,690 Chinese students received US doctorate degrees in S&T related fields and accounted for roughly 32 percent of all international students who received S&T doctorate degrees over the time period (NSB, 2020).

Chinese S&T graduate students who have received training in the US have positively contributed to the country's capabilities to produce scientific knowledge not only while enrolled in their graduate programs but also upon completion of their degrees (Suttmeier, 2014; Xiaoming, 2003). Chinese doctoral students typically have long stay rates in the US with recent data showing that 84 percent of those who graduated from US S&T doctoral programs stayed in the US for at least five years after graduation although this number has been declining in recent years. These graduates, along with other later career stage migrants from China, made up approximately 23 percent of foreign-born doctorate holders who worked in the US S&T labor force in 2017 (NSB, 2020). Many of these China-born scientists hold positions in US colleges and universities as faculty and postdoctoral researchers contributing to the US's ability to educate a S&T workforce and maintain its high-level of research productivity in scientific research (Cantwell, 2011; Cantwell and Lee, 2010; Cantwell and Taylor, 2013; 2015). They also promote the US's engagement

in global science through the maintenance and formation of ties with scientists abroad, especially those in China (Suttmeier, 2008). While there is no public data available on the exact number of Chinese-born scientists working at US higher education institutions, they are part of a growing body of foreign-born full-time faculty and postdoctoral researchers. In 2017, 33 percent of all US full-time faculty within S&T related fields were foreign-born (NSB, 2020), while a larger proportion, or 54 percent, of postdoctoral researchers in S&T related fields were foreign-born (NCES, 2018).

While a large number of Chinese-born scientists who receive training or working experience in the US remain in the US, recent trends demonstrate that an increasingly large number of Chinese-born scientists are returning to China (Cao et al., 2020; Xie et al., 2014). This higher rate of return is attributable to vast improvements in China's domestic S&T system over the last 40 years, which has led to better working conditions and career opportunities for scientists. It is also attributable to efforts by the Chinese government to encourage the return of overseas scientists through several talent recruitment programs, including the Changjiang Scholars Program and the Thousand Talent Program. These returnees have positively contributed to the Chinese higher education system's ability to train students in S&T related fields and produce scientific knowledge (Cao et al., 2020; Marginson, 2018a; Suttmeier, 2014; Xie et al., 2014). Additionally, returnees promote Chinese engagement with the global scientific community as returnees tend to maintain their overseas relationships and engage in international research collaboration (Jiang & Shen, 2019; Jonkers & Tijssen, 2008).

From a common goods perspective, the growth in cross-border mobility of Chinese students and scholars and the subsequent impact that this has had on capacity building and knowledge production in both the US and China demonstrates how university-level S&T cooperation between the two countries has positively contributed to the collective global good of universal global science. While cross-border mobility is considered an individual global good in and of itself, the discussion above points to the relationship between the promotion of it, scientific training, and enhanced knowledge production capabilities in sending and receiving countries. These enhanced capabilities have supported US and Chinese scientists in the production and dissemination of knowledge. What is particularly important to recognize is that the benefits of the increased knowledge production capabilities extend beyond the borders of a single nation-state. While brain drain has occurred with many Chinese students and scholars remaining in the US, the brain circulation that has occurred has meant that China's domestic S&T system has also benefited from the cross-border mobility of its scientists. Moreover, with advancements in ICT and the ease of international travel, mobile Chinese students and scholars have been able to form and maintain ties internationally helping to grow cross-border

research networks. Thus, regardless of whether they stay abroad or return home, Chinese students and scholars are able to collaborate across borders and contribute to both the US and China's S&T enterprises resulting in a greater pluralization of scientific capacity worldwide. Therefore, the promotion of cross-border mobility and the training of scientists has better positioned both the US and China to contribute to universal global science through enhanced S&T capabilities as well as through linking the two science systems allowing for the greater pooling of knowledge, expertise, and resources to be utilized in the knowledge production process.
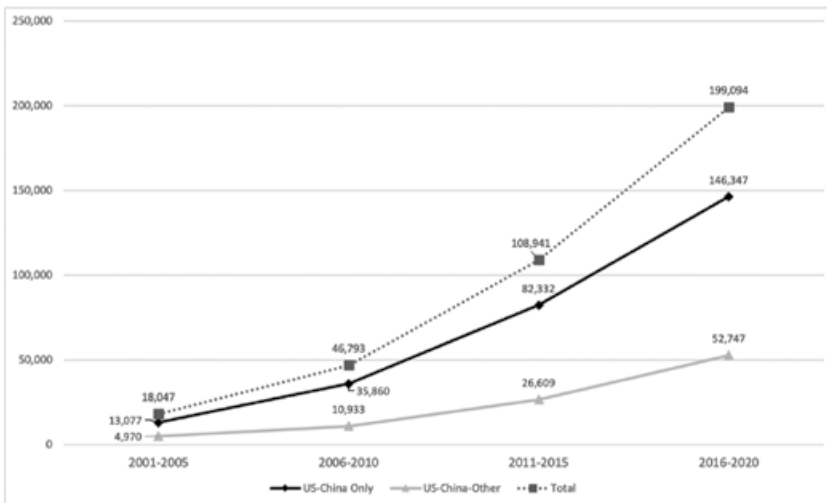
Source: Authors.

Figure 8.1 *Growth in US–China co-publications from 2001 to 2020*

GROWTH IN US–CHINA CO-PUBLICATIONS

In addition to other factors, such as China's enhanced S&T capabilities and increased spending on R&D (He, 2009; Marginson, 2018a; Wagner et al., 2015a), growth in cross-border mobility and the ties formed through mobility have contributed to unprecedented growth in research collaboration between the two countries over the last two decades (Cao et al., 2020; He, 2009; Niu & Qiu, 2014; Suttmeier, 2008; Wagner et al., 2015a; Wang et al., 2013; Zhou & Glänzel, 2010; Zhang & Guo, 2017). This remarkable growth can be seen

when analyzing Scopus data on US–China co-publication in S&T related fields from 2001 to 2020 (see Figure 8.1).[1]

Over this 20-year period, US–China co-publications steadily increased with an average percent change of 125 percent. From 2001 to 2005, US and China affiliated authors collaborated on only 18,047 articles compared to 199,094 articles from 2016 to 2020. To put this total into perspective, total US–China collaborations during 2016 to 2020 ranked 16th out of 247 countries and territories that produced articles during the same time period. In other words, through collaboration, US and China produce more S&T articles than the majority of countries and territories in the world. Furthermore, the data show that growth has occurred through increases in both bilateral and multilateral collaborations. However, the majority of co-publications that include US and China affiliated authors were bilateral for each time period. From 2001 to 2020, the average percent change for bilateral publications was higher than the average percent change for multilateral collaborations (127 percent and 121 percent, respectively).

The extent of this remarkable growth in US–China collaboration can be further conceptualized by comparing their growth rate in co-publications with both countries' growth rates in co-publications with their top collaborating countries. Table 8.1 shows Scopus data on US growth in collaborations with its top collaborating countries from 2001 to 2020.

The data show that growth in US bilateral collaborations with China was far higher than with other top collaborating countries. In cases in which bilateral collaborations between the US and China were lower in 2001–2005 compared to the US's collaborations with other countries, such as with the UK, Germany, Japan, and Canada, US–China collaboration growth outpaced growth with these countries substantially. In the case of US–Japan bilateral collaborations, there was a negative average growth rate across the four time periods, representing a decline in the number of bilateral co-publications over time. Nevertheless, international collaboration with these countries still occurred but tended to be multilateral rather than bilateral in nature. Table 8.1 further shows that the US collaborated more with the UK and Germany than China on multilateral collaborations across all four time periods. However, the growth in US–China multilateral collaborations far outpaced growth with these countries. Like with bilateral collaborations, the average percentage change for multilateral collaborations with China was considerably higher than

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[1]   US–China co-publications from 2001 to 2020 were organized into four separate time periods: 1) 2001 to 2005, 2) 2006 to 2010, 3) 2011 to 2015, and 4) 2016 to 2020. This was done in order to compare changes in US–China co-publications over time as well as to determine the extent to which the rise of nationalism during the Trump era may have impacted US–China S&T cooperation in scientific research.

Table 8.1 *US co-publications with its top international collaborating countries from 2001 to 2020*

| | Bilateral collaborations | | | | | Multilateral collaborations | | | | |
	2001–2005	2006–2010	2011–2015	2016–2020	Average % change	2001–2005	2006–2010	2011–2015	2016–2020	Average % change
China	13,077	35,860	82,332	146,347	127.2%	4,970	10,933	26,609	52,747	120.5%
United Kingdom	18,617	22,561	24,861	26,552	12.7%	17,541	29,482	48,021	70,934	59.6%
Germany	20,361	23,137	24,846	23,736	5.5%	18,765	29,169	45,111	60,630	48.2%
Canada	21,630	28,686	31,298	33,925	16.7%	10,679	18,286	28,450	40,520	56.4%
France	11,729	13,160	14,363	14,170	6.7%	12,614	20,329	31,797	41,659	49.5%
Japan	20,244	20,651	18,192	17,672	-4.3%	9,171	12,770	17,578	24,461	38.7%
Italy	10,065	13,010	14,529	14,743	14.1%	8,842	14,879	24,355	34,109	57.3%
Australia	7,604	10,155	12,216	13,535	21.5%	5,751	10,679	20,607	32,748	35.7%
South Korea	10,290	16,310	22,395	20,906	29.7%	3,263	5,676	10,987	14,770	67.3%
Spain	5,976	8,218	10,070	9,928	19.5%	5,474	10,948	19,853	28,077	29.2%
Netherlands	5,269	6,159	7,460	7,497	12.8%	6,413	11,160	19,145	27,219	62.6%

Table 8.2   *Chinese co-publications with its top international collaborating countries from 2001 to 2020*

	Bilateral collaborations					Multilateral collaborations				
	2001–2005	2006–2010	2011–2015	2016–2020	Average % change	2001–2005	2006–2010	2011–2015	2016–2020	Average % change
United States	13,077	35,860	82,332	146,347	127.2%	4,970	10,933	26,609	52,747	120.5%
United Kingdom	2,769	6,477	12,782	28,852	119.0%	1,809	4,190	10,403	23,552	135.4%
Hong Kong*	7,653	11,514	16,077	22,773	43.9%	1,579	3,025	6,011	11,829	95.7%
Australia	1,706	5,232	13,353	29,480	160.9%	1,121	2,606	6,802	17,297	149.3%
Japan	7,223	11,551	14,229	17,451	35.2%	1,999	3,901	7,271	13,178	87.6%
Germany	3,136	5,220	8,214	13,677	63.4%	2,195	4,294	9,799	19,340	107.1%
Canada	1,904	5,892	11,219	21,321	130.0%	1,278	2,794	6,256	13,032	116.9%
France	1,313	3,148	4,937	7,928	85.7%	1,332	2,827	6,412	12,415	110.9%
Singapore	1,442	3,697	6,762	11,921	105.2%	495	1,315	3,289	6,880	141.7%
South Korea	1,388	3,435	5,343	8,077	84.7%	865	2,178	5,031	9,528	124.1%
Taiwan	964	1,997	3,959	7,333	96.9%	712	1,563	3,993	7,504	121.0%

Note: *Hong Kong and Macao were classified separately from China in Scopus.

with the other countries. In all, in terms of US growth in collaborations with other countries, its rate of growth in collaborations with China stands out as bilateral as well as multilateral collaborations grew at higher rates compared to its growth with other countries.

In examining China's growth in collaborations with its top collaborating countries over the last two decades (see Table 8.2), the number of US–China bilateral and multilateral collaborations far surpassed the number of collaborations between China and any other country. China's rate of growth with other countries for both types of collaborations was similar to its rate of growth with the US. However, unlike the US, China has multiple partners with which the rate of bilateral growth exceeded the rate of multilateral growth. These included the US, Australia, and Canada. In fact, China's average rate of growth across all four time periods with Australia and Canada were higher than its rate of growth with the US. Despite these changing patterns, the total number of US–China bilateral co-publications across all time periods was much greater than the number of China–Australia and China–Canada co-publications.

Together, these data on the growth of US–China co-publications provide another example of the extent to which US–China S&T cooperation contributes to universal global science. Over the last two decades, the two countries have collaborated to produce an immense amount of knowledge. The scale of this production is quite clear when comparing the number of co-publications that included US and China affiliated researchers compared to the number of co-publications that each country has had with their other top collaborating countries. The growth in the network between the US and China as well as between the US, China, and other countries also means that knowledge is being more easily distributed across national borders, increasing its value and potential as a global common good. This knowledge contributes to the global stock of knowledge, and once available to the global scientific community, it can be applied in various ways, including but not limited to, new knowledge production, policy recommendations, and direct application to solve global challenges. Based on the trends in growth, it is likely that US–China co-publications will continue to grow in the future, increasing both countries' contributions to universal global science.

US–CHINA MULTILATERAL CO-PUBLICATIONS AND THE GLOBAL NETWORK OF SCIENCE

The exceptional growth in US–China co-publications has coincided with the emergence of the global network of science (Adams, 2012; Leydesdorff & Wagner, 2008; Leydesdorff et al., 2013; Wagner & Leydesdorff, 2005; Wagner et al., 2015b). From the 1990s until 2020, the amount of scientific knowledge produced through international collaboration has steadily increased

(Adams, 2012; Leydesdorff & Wagner, 2008; Leydesdorff et al., 2013; Wagner & Leydesdorff, 2005; Wagner et al., 2015b). In 2000, 14 percent of worldwide articles were produced through international collaboration, while in 2018, this rose to 23 percent (NSB, 2020). Not only has the proportion of article publications increased but also the number of countries that are engaged in international research collaborations has grown (Leydesdorff & Wagner, 2008; Leydesdorff et al., 2013; Wagner & Leydesdorff, 2005; Wagner et al., 2015b). According to a recent study utilizing data from the Science Citation Index (SCI; Wagner et al., 2015b), between 1990 and 2011, the number of countries publishing as part of the global network of science rose from 172 to 201. Along with the new entrants, there has also been an increase in the number of countries with which a given country collaborates, indicating that the global network of science is becoming denser over time. This increased density can also be seen in the growth of the network's densely connected core which includes the US and China and grew from 35 countries in 1990 to 114 countries in 2011.

Additionally, the network is characterized as being open, with power and influence not clustering around leading producers of scientific knowledge. This characterization derives from the increasing number of connections between countries in the network, which allows information to move more freely through the network without having to pass through a limited number of centralized nodes (Wagner et al., 2015b). Due to these features of the global network, researchers utilizing network theory have argued that the global network of science is a self-organizing system that has emerged based on the interests of individual scientists seeking collaborators to enhance their knowledge production capabilities, and as such, operates outside the influence of policies to promote collaboration or national systems of science (Wagner, 2005; Wagner & Leydesdorff, 2005; Wagner et al., 2015b). Yet, at the same time, it is not a completely separate system because for certain countries, including the US and China, it has been shown to have a high-degree of influence over domestic research agendas (Wagner et al., 2015b).

The emergence of the global knowledge network and its network structure can also be seen in changes in the network structure of US–China multilateral collaborations over the last two decades. Table 8.3 presents Scopus data on the US–China multilateral co-publication research network and how it has evolved over time. Moving from 2001 to 2020, there was a steady increase in the number of countries with researchers who were involved in US–China multilateral co-publications. From 2001 to 2005, US–China multilateral co-publications included only 112 other country researchers, or 48 percent of all countries that published research during the time period. From 2006 to 2010, the number of other country researchers involved in US–China multilateral co-publications increased to 158 other countries, or 67 percent of all

countries that published research during the time period. This increase from 48 percent to 67 percent represented a significant increase (p<0.001) in the percentage of total publishing countries included in US–China multilateral co-publications. Likewise, from 2011 to 2015, the number of countries with researchers partaking in US–China multilateral co-publications increased to 191, or 81 percent of all countries that published during the same time period. This increase from 67 percent to 81 percent was significant at the 0.001 level (p<0.001). Finally, from 2016 to 2020, 213, or 87 percent of all countries, had researchers who were involved in US–China multilateral collaborations, although not significant at the 0.05 level (p=0.11).

Table 8.3　　　*Network measures of US–China multilateral research collaboration networks for the four different time periods*

	2001–2005	2006–2010	2011–2015	2016–2020
Number of countries[*]	112	158	191	213
% of total publishing countries[**]	48%	67%	81%	87%
Number of edges (ties between countries)[***]	4,970	12,524	21,028	30,576
Density	0.400	0.505	0.579	0.677
Average degree	44.375	79.266	110.094	143.549
Average geodesic distance	1.533	1.511	1.407	1.297
Graph betweenness	0.402	0.327	0.209	0.136
Clustering coefficient	0.848	0.874	0.870	0.898

Notes:
[*] The number of countries does not include the US and China.
[**] To determine percentage of total publishing countries, the total number of countries count in the table for each time period was divided by the total number of countries, minus the US and China, that published at least one S&T article during the given time period. From 2001 to 2005, 233 countries published at least one article; from 2006 to 2010, 234 countries published at least one article; from 2011 to 2015, 234 countries published at least one article; and from 2016 to 2020, 245 countries published at least one article.
[***] The network measures of number of edges, density, average degree, average geodesic distance, graph betweenness, and clustering coefficient, were calculated using dichotomized network matrices that excluded US and China as country nodes. This was done to limit the effects of ties with the US and China on network cohesion.

Moreover, in analyzing changes in the cohesion of the US–China multilateral co-publication network, all network measures including density, average degree, average distance, graph betweenness, and clustering coefficient showed that the US–China multilateral co-publication network became more cohesive over time. Network density increased, indicating that over time there were more connections between countries, or more countries were collaborating per article with US and China affiliated researchers on US–China

multilateral co-publications. From 2001 to 2005, researchers from only 40 percent of countries in the network collaborated with each other as part of US–China multilateral collaborations, while from 2016 to 2020, researchers from 67 percent of countries collaborated with each other as part of US–China multilateral collaborations. Similarly, the average degree of each network gradually increased from one time period to the next. This indicates that countries involved in US–China multilateral collaborations collaborated with more countries on average, representing an increase in connections between each country in the network. Next, the average distance between countries for each network decreased over time, showing that the distance required for one country to reach any other country in the networks decreased. This, like the previous measures, demonstrates an increase in connections between the countries that collaborated as part of US–China multilateral co-publications. Further, graph betweenness declined from one time period to the next, signifying increasing ties between countries and less clustering around central nodes over time. Finally, though the clustering coefficients for each of the four time period networks were high, there was a slight increase in clustering coefficients over time indicating that countries had the same or similar ties as the other countries with which they were connected.

These data indicate that the network structure of the US–China multilateral co-publications has undergone similar changes to those found by other researchers in the analysis of the global network of science (Wagner et al., 2015b). These parallel changes suggest that the US–China multilateral co-publication network is being influenced by the changes occurring in the broader global network of science. It also shows that US–China research collaboration has been increasingly taking place in a highly networked, globalized S&T environment. The changes in network structure have direct implications on the extent to which US–China S&T cooperation contributes to universal global science. Over time, there were more connections between countries and, in general, more researchers from different countries collaborated on articles. This increase in connectivity implies that knowledge has been moving more and more freely through the network from one country to another. The extent of knowledge dissemination and the potential for knowledge to serve as a global common good have been enlarging. Likewise, the rise in collaborations between countries indicates the possibility for enhanced glonacal synergies in which universal insights can be uncovered through resource and knowledge sharing at the global level and later applied in a variety of national and local settings. Moreover, the increase in ties between countries combined with less clustering around central nodes in the network, as measured by graph betweenness, indicates the network has become more open and power within the network is more evenly distributed, further supporting collaboration and knowledge dissemination as centralized brokers are less prominent in

the network. For these reasons, US–China multilateral co-publications have greater potential today to contribute to global common goods than in the past due to the inclusiveness and interconnectedness of the network and its increased potential to produce and disseminate knowledge.

GROWTH IN US–CHINA CO-PUBLICATIONS BY SUBJECT AREA

While increases in co-publications and enhanced network connectivity demonstrate some of the ways that US–China S&T cooperation contributes to universal global science, to fully understand the extent of its contributions, one should also examine the topical areas of knowledge being produced. In particular, it is important to understand whether the US and China are collaborating to produce knowledge within a variety of academic disciplines. Scopus data from over the past two decades show that the leading subjects of US–China co-publications were biochemistry, genetics, molecular biology (79,843 articles), engineering (74,584), physics and astronomy (71,738), and medicine (69,104). Areas that received less relative attention included neuroscience (13,456), pharmacology, toxicology, and pharmaceutics (14,969), immunology and microbiology (16,912), and energy (17,156) (Table 8.4).

These top subject areas remained consistent across all time periods with changes occurring amongst them over time. Moreover, for all subject areas, bilateral and multilateral collaborations grew at approximately the same rate over time with two exceptions, chemistry and immunology and microbiology. Finally, the trend data also shows some shifting priorities in collaboration involving the two countries, with increasing collaborative interest in energy (222 percent bilateral and 225 percent multilateral), chemical engineering (180 percent; 193 percent), environmental science (181 percent; 177 percent), and computer science (171 percent; 170 percent).

These subject area data further show how US–China collaboration promotes the common good of universal global science through the production of knowledge across a variety of academic disciplines. The US and China expanded their levels of cooperation across diverse fields of knowledge resulting in further contributions to global common goods. However, it is also clear that some subject areas received far more attention than others, leading to uneven contributions to universal global science and common good creation. The data suggests that more knowledge is being produced in biochemistry, engineering, physics, and medicine than in some more readily applied fields like neuroscience, pharmacology, immunology, and energy. The implication of this is not that all subjects should be equally treated, but that there might be some increased internationally collaborative attention in subject areas receiving relatively less, but needing more, attention than others. For example, the topic

Table 8.4   Subject areas in which US and China affiliated researchers collaborated during the four time periods

Subject area	2001–2005		2006–2010		2011–2015		2016–2020		Average % change	
	Bilateral	Multilateral	Bilateral	Multilateral	Bilateral	Multilateral	Bilateral	Multilateral	Bilateral	Multilateral
Physics and astronomy	3,020	2,062	6,827	3,385	13,344	7,372	22,452	13,276	96.6%	87.3%
Biochemistry, genetics and molecular biology	3,018	831	8,912	2,242	19,589	5,635	29,833	9,783	122.5%	131.6%
Medicine	2,191	683	7,124	2,022	15,742	5,157	26,264	9,921	137.7%	147.8%
Engineering	2,179	581	6,184	1,289	16,411	3,742	34,646	9,552	153.4%	155.8%
Chemistry	2,050	404	5,669	1,149	13,741	3,368	25,160	7,386	134.0%	165.6%
Materials science	1,955	515	5,171	1,227	13,278	3,125	28,564	8,156	145.5%	151.3%
Agricultural and biological sciences	1,397	483	4,113	1,284	8,565	2,820	14,178	5,346	122.7%	125.0%
Mathematics	1,326	446	2,789	841	5,933	1,697	10,517	3,303	100.1%	95.0%
Earth and planetary sciences	1,302	595	3,181	1,448	6,612	3,229	11,787	6,854	110.1%	126.2%
Computer science	787	258	2,349	700	6,985	2,128	15,079	4,971	170.6%	169.6%
Environmental science	717	236	2,707	732	6,945	2,085	14,573	4,945	181.3%	177.4%
Chemical engineering	674	141	2,144	405	6,725	1,379	14,021	3,469	180.1%	193.1%
Pharmacology, toxicology and pharmaceutics	533	110	1,770	328	3,897	840	6,034	1,457	135.7%	142.6%
Neuroscience	433	156	1,421	366	3,121	875	5,371	1,713	140.0%	123.2%
Immunology and microbiology	404	203	1,682	524	4,166	1,221	6,568	2,144	173.9%	122.2%
Energy	280	69	1,023	198	3,575	655	9,010	2,346	222.3%	225.3%

of energy offers a range of global goods and has received a noticeable increase in collaboration over the past two decades. Yet, it is the least common subject being published between the US and China. Given the centrality of these two countries in the global scientific network, more intentional coordination by subject area has direct implications for addressing global goods.

DISCUSSION

This chapter set out to provide greater insight into how US–China S&T cooperation contributes to the global common good of universal global science. The data presented above highlight increasing levels of cooperation between the two countries, especially at the university level through growth in cross-border student and scholar mobility and in collaboration on scientific research. US–China S&T cooperation has resulted in increases in both countries' abilities to produce scientific knowledge, and the two countries collaborate more today than they have in the past demonstrating remarkable growth in both bilateral and multilateral collaborations. This growth has occurred in a diverse range of S&T technology related disciplines, broadening the impact that US–China cooperation has on global science and the extent to which it contributes to global common goods. US–China S&T cooperation has also increasingly occurred as part of multicountry teams within a highly networked, globalized S&T environment. This has increased the potential for knowledge production involving scientists from the two countries as well as the dissemination and use of knowledge for promoting human progress.

Beyond identifying the contributions that US–China S&T cooperation makes to universal global science, the trends in the data also have implications for understanding the extent to which geopolitical tensions between the two countries may impact future US–China S&T cooperation and what this may mean for each countries' knowledge production capabilities and global science more broadly. The data demonstrated the important role that cross-border mobility and scientific training have played in the formation of ties between US and Chinese scientists. These connections have benefited both countries through building S&T human capital and providing opportunities to pool knowledge, skills, and resources to engage in knowledge production. This means that policies that limit visas and reduce opportunities for cross-border mobility and network formation may impede both countries' S&T capabilities and their abilities to contribute to global science. The US may lose access to highly skilled Chinese-born scientists that hold faculty and postdoctoral positions within US universities and have been crucial for the success of its S&T enterprise (Haupt & Lee, 2020). Likewise, if fewer Chinese scientists receive training or gain research experience in the US, China will accrue less benefits from its policies that promote brain circulation as a means to help

grow its S&T enterprise (Ma & Pan, 2015). Such consequences may hinder the development of each country's knowledge production capabilities and reduce the amount of knowledge produced through US–China research collaboration. This ultimately means a reduction in the global stock of knowledge as well as a reduction in cross-border ties that contribute to knowledge dissemination through the global network of science.

In addition to the impacts on US and China S&T capabilities and their contributions to global science through knowledge production, the data on the US–China multilateral co-publication networks shed light on the broader impact that US–China S&T cooperation has on global science today. Coinciding with research on the global science network (Adams, 2012; Leydesdorff & Wagner, 2008; Leydesdorff et al., 2013; Wagner & Leydesdorff, 2005; Wagner et al., 2015b), the data showed that over time more countries became involved in US–China multilateral co-publications and the number of ties between the countries in the network increased. This means that collaboration involving US and Chinese scientists has increasingly occurred as part of a complex global network of science. It also means scientists from other countries are increasingly engaged in collaborations that involve US and Chinese scientists, and these collaborations are making up a larger part of other countries knowledge output. Applied to the concerns over disruptions in US–China cooperation due to geopolitical tensions, restrictions on collaboration between US and Chinese scientists may interfere with the ability of international teams of scientists to gather and share information that is needed to produce knowledge and solve global problems. This could diminish the global scientific community's ability to address many of the global challenges that face humanity today that require multilateral, global responses, such as climate change, food security, and the spread of infectious diseases. Therefore, within the emerging global network of science, US–China S&T cooperation has become more complex, and the ramifications of disruptions in cooperation between the two countries has the potential for broader impacts beyond just US–China bilateral cooperation, especially given their scale of collaboration and their prominence within global science.

Lastly, while the data in this chapter have helped elucidate the impact that geopolitical tensions could have on US–China cooperation and its contribution to global science through knowledge production, it also has raised doubts about the negative impact that geopolitical tensions may have due to the evolving relationship between the nation-state and science (Wagner et al., 2015b). Similar to previous studies that have investigated US–China collaboration in recent years, despite rising geopolitical tensions between the US and China, there was no decline in co-publications between the two countries (Haupt & Lee, 2021; Lee & Haupt, 2020; 2021). Moreover, the US–China multilateral co-publication network exhibited the structural features of the

global science network, which has been characterized as self-organizing and operating outside the needs of national science systems (Wagner et al., 2015b). The ever-expanding global network, increasing demand and supply for cross-border education and training, and technological advances have allowed scientific exchange (and the network) to possibly transcend national agendas indicating that a more independent, resilient global scientific system exists today than in the past.

This is not to say nation-states are not still important; they continue to play a vital role in funding scientific research and supporting the institutions and conditions that make international scholarship possible (Marginson, 2018b); however, their role is being challenged and scientists may have more agency to seek international collaborators to engage in scientific knowledge production. For US–China cooperation as well as universal global science, this should be seen as a positive. A more independent global science system likely means that collaboration will be more resilient to disruptions caused by geopolitical tensions or isolationist national policies. Also, the structure of the system is more inclusive, meaning that nations are free to join given they have the means to do so, which enhances each country's capabilities to produce and disseminate knowledge and contribute to global common goods. A more resilient and inclusive system will be necessary to solve the most pressing global challenges, especially those that disrupt normal science processes, such as with COVID-19.

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PART III

Contributions to economy, polity, government and culture

9. Graduate employability and employment

James Robson

INTRODUCTION

The concepts of graduate employability and employment have gained increasing prominence across global higher education (HE) systems over the last two decades and have become largely synonymous with the relationship between taught degree courses in HE and the economy (Tomlinson, 2017). A number of complex definitions have been developed, but in simple terms, graduate employability can be thought of as a graduate's ability to get and keep the job they want (Rothwell and Arnold, 2007). It is assumed that graduates will want a 'graduate level job' that utilises their skills and provides appropriate financial returns on the investment made in their education (Rothwell and Rothwell, 2017). Graduate employment is a fixed measure of the effectiveness of graduates' employability and, when used with salary data, provides information about different levels of financial returns on degrees (Thijssen et al., 2008).

While these concepts have become very much established in liberal economies, the intersection of HE, the economy, and graduate labour market outcomes are increasingly permeating HE policy and public discourse around the world (Cin and Neave, 2014; Crossman and Clarke, 2010; Mok and Wu, 2016; Tomlinson, 2017; Tran, 2015). Graduate labour market outcomes and graduates' ability to successfully navigate the jobs market are increasingly emphasised as a key, if not *the* key, contribution of HE, and individual financial returns on degrees have become a core measure in global institutional rankings, an accountability tool, and a mechanism of governance in many HE systems (e.g. Belfield et al., 2018; Boero et al., 2019). At the same time, ensuring HE institutions provide a steady supply of 'work ready graduates', equipped with the skills demanded by employers, has become a significant driver of HE and wider tertiary policy. Thus, these employment-related contributions of HE can be discussed in relation to individual graduates' own relationships with the labour market as well as in terms of the wider economy, macro-level productivity, and national (even global) skills demands.

Graduate employment and employability, therefore, sit across a heterogeneous theoretical space comprising private and public contributions of HE and cutting across local, national, and global levels. However, this is a messy and politicised space. Driven by often simplistic understandings of human capital theory, an increased focus on graduate employment and employability in both policy and public discourse has been seen by many commentators as placing these kinds of economic contributions in direct opposition to the key educational aims of HE rooted in learning and self-cultivation as embodied in Humbolt's concept of *Bildung*. As such, discussion of the contributions of HE in terms of graduate employment and employability is increasingly and necessarily a site of debate and meaning-making around the identity and the very purpose of HE.

This chapter, therefore, introduces some of the key debates and issues related to the economic contributions of HE in terms of graduate employment and employability, examining employability in terms of both private and public contributions of HE. It unpacks the problematic assumptions embedded in the underpinning theoretical perspective of human capital theory as the driving force behind global HE policy. In doing so I argue that a more critical approach to conceptualising graduate employment and employability is required that takes into account issues of inequality, social tensions, labour market structures, and the varied aims of HE and students. The chapter concludes with a discussion of the need for a more nuanced approach to conceptualising the relationship between HE and the world of work.

Historical and Theoretical Background

From the nineteenth century and until at least the middle of the twentieth century, western conceptualisations of HE were dominated by two key thinkers: Newman's (1996) ideas that learning through university education should be pursued for its own sake as part of a wider goal of 'raising the intellectual tone of society'; and Humbolt's emphasis on *Bildung*, in which HE is seen as a process of self-cultivation. In many ways these conceptualisations of a university education overlap and were rooted in an elite model of HE, largely focused on providing education for a minority of gentlemen. To a certain extent, links between HE and employment sat uncomfortably within these models.

Despite this, at a global level, the relationship between HE and employment and the idea that a university education should prepare individuals for the world of work has a long history going all the way back to one of the oldest national HE systems: in China, as early as the Han dynasty (206 BCE to 220 CE), scholar-officials were selected based on examinations in classical texts and scholarly arts supported by a state academy (Marginson, 2016).

This system significantly expanded in the Song dynasty (960–1279 CE) and, although Confucian ideals of self-cultivation were embedded within it, the links between education and employment were overt.

However, in modern HE systems around the world, the period after World War II saw a rapid expansion in the size of the sector and enrolment numbers and an increased focus on university and wider tertiary education as a mechanism for preparing students for work. Societal and economic changes, rural–urban migration, rapid shifts in the nature of work, growth in the middle class, and an emphasis on equality of opportunity and social mobility in the second half of the twentieth century all contributed to this massification and discursive shift that emphasised graduate employment as a key contribution of HE (Brown et al., 2003; Marginson, 2016; Trow, 1973). This can be clearly seen in the California Master Plan, which was aimed at providing access to HE for all students qualified to enter, exemplifying goals of equality of access and growth of HE while also embedding a range of vocational courses into the institutional offerings (Kerr, 2001).

At the same time, this socially and economically febrile period led to the formation of human capital theory in the form that currently dominates HE policy and debate. In brief, although the idea of human capital had existed in economics for several centuries, going back to Adam Smith (1776), human capital theory in its current formulation was developed in the 1950s and 1960s in America. This was partially driven by a resurgent interest in understanding the drivers of economic growth and the sudden availability of large data sets relating to workers' earnings, productivity, and education levels (Brewer et al., 2010). Although Mincer (1958) and Shultz (1961) contributed to the development of the theory, Becker (1962) is largely seen as the father of modern human capital theory.

In simple terms, human capital is conceptualised as the aggregate stock of competencies, knowledge, social, and personal attributes (either innate or acquired) embodied in the ability to create intrinsic and measurable economic value – 'productivity'. These are seen as increasing through investment in such things as education and on-the-job training. In terms of HE, therefore, human capital theory assumes that individuals invest in education with the expectation that the investment will provide a benefit, usually in the form of higher earnings or overall well-being. Investment is seen as raising individual productivity, which leads to higher rewards. Education or training enhances skills, which makes workers more productive, which increase firms' outputs and profits, the value of which is reflected in financial rewards to the individual (Becker, 1962). At the same time, enhanced productivity through human capital is seen as driving economic growth (Eide and Showalter, 2010; Holmes, 2017).

Under human capital theory, HE is conceptualised in terms of a calculation in which individuals must weigh up the costs of investing in their own human

capital through education against the likely returns their education will bring them. Investment usually includes financial costs associated with study (fees, living expenses, etc.) as well as opportunity costs (what could have been done if the individual had not been studying) and the psychological exertion of studying. Benefits can be discussed broadly in relation to health and well-being but usually focus on measurable returns in the form of financial earnings over the course of a lifetime.

There is much debate over the mechanisms that underpin the human capital model. Broadly speaking, traditional human capital theory posits a cumulative growth in skills, developed through education and training, which enhance productivity in the workplace. Specific forms of education and training may be better aligned with labour market demands. This is distinct from signalling theory, usually attributed to Spence (1973), which argues that workers' innate productivity levels are *identified* by their time in education rather than enhanced by them. Embedded in this model is the assumption that the mental effort of schooling is experienced differently for those with different levels of innate productivity, so that those who learn more efficiently can acquire more credentials at a lower psychic cost than others. Advocates of the signalling model argue that employers cannot know workers' actual productivity levels or skills, so make hiring decisions based on the representative power of education and training credentials (Page, 2010).

Others have developed understandings of these mechanisms to provide blended approaches (Stiglitz, 1975), or expanded on them through the lens of cognitive skills (Hanushek and Woessman, 2008) and even language of capabilities (Tomlinson, 2017). However, the basic human capital theory logic underpins these different understandings of the relationship between education and the labour market – that investment in learning is reflected in labour market returns and optimisation within the market.

The Rise of Employability

In its simple form, human capital theory has come to permeate HE policy at a global level and is a core part of the background of the rise in prominence of employability in HE policy. The 'employability agenda' can be partially traced back to the 1980s when the global shift in economic discourse, with the prominence of Reaganomics, accelerated the increasing dominance of neo-liberalism in the public and policy arena which saw an emphasis on the individual and a conceptualisation of education as a private good (Piketty, 2014). This was intensified by the expansion of the 'knowledge economy' and digitalised modes of production, the decline of manufacturing (particularly in the west), and the growth in the precariousness and intensification of work (Brown et al., 2011; Tomlinson, 2019). These changes within the labour

market have brought increased job churn and career mobility, intensified in recent years with the growth of the gig economy (Prassl, 2018). New, flexible modes of work shifted the burden of risk onto the individual (Ekinsmyth, 1999). Entering and navigating such a precarious space is increasingly seen as requiring a diverse range of skills (employability skills) to equip individuals to manage their own career trajectories, moving across a range of organisations and roles (Inkson et al., 2015). In the majority of liberal markets, education and training systems have, at policy level, been viewed as taking responsibility for ensuring individuals have appropriate knowledge, skills, and experience (employability) to engage with these flexible labour markets (Orton, 2011).

Thus, the emerging dominance of graduate employment and employability within the HE landscape can be seen as a direct result of the theoretical development of human capital theory and complex shifts in the economy and the labour market. These have placed the relationship between HE and the labour market as a key focus of universities and a core contribution of HE. Embedded within this focus are two key assumptions. Firstly, that the main contribution of HE is to provide individuals with the skills, knowledge, experience, and credentials to successfully navigate the labour market, and see financial returns on their educational investment. This private contribution of HE sits at the heart of 'graduate employability' and can be summed up in the simple premise: 'learning is earning' (Brown et al., 2020). Secondly, that HE contributes to the economy by driving macro-level productivity by providing graduates with the skills demanded by employers and the wider economy (Payne, 2017; Rothwell and Rothwell, 2017). Thus, under traditional economic theory graduate employability can be thought of as both a private and public contribution of HE.

EMPLOYABILITY AS A PRIVATE CONTRIBUTION

As highlighted, based on human capital theory principles, employability as a private contribution of HE is framed both as an ability for graduates to freely navigate the labour market, accessing graduate jobs, and to be financially rewarded over lifetime earnings. Hillage and Pollard (1998, p. 1) provide a widely used definition of employability, arguing that 'employability is about [individuals] having the capability to gain initial employment, maintain employment and obtain new employment as required'. Emphasis here is put on individuals' agency to 'move self-sufficiently within the labour market' through the deployment of 'knowledge, skills and attitudes they possess' (Hillage and Pollard, 1998, p. 12).

A key discussion in much literature on graduate labour market outcomes emphasises the need to make a meaningful distinction between graduate employability and graduate employment (Holmes, 2013; Tomlinson, 2019).

While employment is a fixed outcome, the broader concept of employability attempts to introduce a greater sense of dynamism and agency, emphasising that the private economic contributions of HE do not simply revolve around fixed financial returns, but individuals' ability to navigate the labour market and deploy their knowledge, skills, and experiences (human capital) in a way that matters most to them (Mulder et al., 2009). Tomlinson (2017), for example, emphasises this conceptualisation of employability, providing a nuanced account of individual graduates' relationships with the labour market rooted in their own self-formation and agency (see Marginson, 2018).

However, in policy contexts value is often placed on what can be easily measured rather than attempting to measure what is valued and so contributions related to employability are often reduced to measures of graduate employment and financial returns (Tomlinson, 2017). The measure of individual financial returns to HE is often described in terms of 'the graduate premium' or the 'wage premium' (Holmes and Mayhew, 2016): the increase in average wages that university graduates can expect to achieve over their lifetimes, when compared with peers who do not have a degree. Given the prominence of economic thinking within academic studies of graduate employability, extensive research is regularly undertaken measuring financial returns of graduate education (Green and Henseke, 2014; Harkness and Machin, 1999).

Analyses of a wide range of data sets around the world show that wage premia for graduates remain higher than individuals without university education. Although data show contractions in graduate premia over time, particularly as HE systems grow (van der Velden and Bijlsma, 2016), when compared with other levels of education, financial returns to investment in HE are consistent. For example, Green and Henseke's (2021) analysis of European data shows the graduate wage premium reduced by 1 percentage point in seven countries over the last decade, but the OECD shows that the premium still exists across these economies.

Thus, there can be little doubt that the promises of human capital theory and the allure of employability as a private contribution of HE have been wholeheartedly taken up by governments, institutions, parents, and students themselves. Attracted by the promise of a good job, parents and students invest vast amounts of money into their children's and their own education. Universities spend vast amounts of money on attempting to develop students' employability (e.g. see Rothwell and Rothwell, 2017) and on attempting to show the impressive labour market outcomes of their students, foregrounding them on websites and marketing materials and actively competing in global employability rankings. Governments increasingly use employability as an accountability measure, root HE fee structures in the assumption that, since individuals benefit from their education, they so should pay for it, and embed industrial strategies in the panacea of skills supply (Keep, 2010). However,

on closer scrutiny, the central tenets of employability orthodoxy, particularly when reduced to discourses that emphasise financial returns over individual agency, appear fragile and problematic.

Employability as a Relative Good

The idea of value scarcity undergirds both human capital theory and the employability agenda. However, it is quite clear that employment outcomes, measured both in terms of the kind of jobs that graduates have and the salaries they achieve, are subject to various contingencies that are independent of the skills and knowledge acquired through HE. Graduates' employment and employability are likely to be significantly shaped by forces both outside their HE experiences and themselves as agents within the labour market.

As such, employability and employment should be considered as a relative good, with graduates' success particularly dependent on the shape and state of the labour market and the economy and the size and nature of the education system.

Labour Market and Educational Structures

Graduate employability, and, indeed, employment of any kind, is determined by the conditions of the labour market just as much (if not more than) as by the knowledge, skills, and attitudes of the individuals attempting to navigate it. In times of labour shortages, the long-term unemployed will become employable; when there are fewer jobs (in a recession, for example), even those who have invested heavily in their employability will struggle to find work. In other words, employability will vary according to economic conditions.

Therefore, as argued by Brown et al. (2003), employability should be thought of as a 'duality', with two dimensions – the absolute and the relative. Absolute conceptualisations of employability are rooted in human capital theory and readily equate skills, knowledge, and experiences with physical capital that can be acquired through HE and deployed within the labour market when needed (Payne, 2018). Even more nuanced approaches which emphasise human capital in more dynamic terms as the ability to navigate employment effectively have this absolutist approach at their heart. Successful employment and employability is seen as simply a matter of getting the education right. This perspective, many have argued, all too often permeates policy discourse and conceptualises the labour market contributions of HE in linear terms (see Brown et al., 2020; Holmes and Mayhew, 2016; Keep, 2012; 2017).

This kind of absolute model of employability is rooted in the principle of labour scarcity, that there will, in the labour market, always be demand for skilled labour (Autor, 2015). However, social and economic forces, tech-

nological developments (including growing digitalisation, automation, and AI), climate change, and as illustrated by the COVID-19 crisis, pandemics all clearly show this demand is not constant and absolute, but relative and highly changeable. Even in times of economic buoyancy, it is clear that labour scarcity principles vary wildly across sectors, regions, and countries (Green and Henseke, 2020; Holmes, 2017). Employability is, therefore, relative to local, national, and, in relation to increasingly mobile labour markets, global economic structures. The value of the contribution of HE in terms of employ-ability is *relative* to labour market demand.

At the same time, even in the strongest labour market, employability is a positional good and success is rooted in competition between graduates. This competition intensifies as demand contracts. However, it can also be understood as relative to labour market supply. Competition for position in the labour market intensifies as the number of graduates within that market increases. In other words, the value of an individual's employability is in a relationship with the employability of their peers.

The trajectory of HE systems around the world is one of growth. The trend towards massification now means that large-scale HE or High Participation Systems dominate the majority of countries (Cantwell et al., 2018). This move towards mass and universal HE systems (Trow, 1973) has clear and positive implications for equity of opportunity and social mobility. Given the generally positive employment prospects associated with higher levels of education, ensuring system-wide growth (alongside policies of widening participation in HE) is clearly an important mechanism for opening up labour market oppor-tunities across socio-economic status, class, gender, and ethnicity (O'Sullivan et al., 2019a).

However, in a jobs market that is not characterised by infinite capacity, growth in the number of graduates will heighten competition for a limited number of jobs. Analyses continue to correlate massification with devaluation of the graduate premium and devaluation of a university education in labour market terms (Holmes and Mayhew, 2016). This has led to ongoing concerns about what is often termed overeducation/underemployment – where indi-viduals undertake work that does not make full use of their skills (Freeman, 1977). Although a difficult and debated concept, analyses suggest that the proportion of graduates in non-graduate jobs is rising, particularly in OECD countries (Elias and Purcell, 2013; Green and Henseke, 2014; 2016; Holmes and Mayhew, 2016). Human capital theory principles define this as oversup-ply of graduates and a supply-side issue (see below for further discussion of demand-side interventions).

As such, despite the promise of linear labour market returns encapsulated in human capital theory, the value of employability can be seen as relative to both the variable structures of the labour market, the size and shape of an HE

system, and the kinds of graduates it produces. Therefore, graduate employment and employability, as means of conceptualising private contributions of HE, is problematic as it is not an absolute construct. It is relative and shaped by a complex relationship between supply and demand which in turn are all affected by a wide range of social, economic, and political factors.

The Myth of Merit

Beyond this relativity, underpinning human capital theory, and arguably embedded in simplistic conceptualisations of employability, is an often unarticulated assumption that the labour market is a meritocracy where the best and the brightest succeed. This is the core of neo-liberalism and market logic: in a labour market the best individuals, with the best employability skills, who having invested most in their own human capital, will get the best jobs (Piketty, 2014). However, extensive research has highlighted that there are clear winners and losers in the labour market and that graduate outcomes are fundamentally shaped by a wide range of social structures and factors that extend well beyond employability developed through education.

Market logic acknowledges that certain kinds of education are more likely to provide advantages in the labour market. Certain kinds of educational capital are more aligned with labour market demands or, if a signalling theory approach is taken (Spence, 1973), certain credentials are more highly valued. Regardless of how this is theorised, it is widely acknowledged that degrees from more prestigious institutions have more labour market value (Friedman and Laurison, 2019; Savage, 2015). However, there is overwhelming evidence that access to prestigious institutions, which are usually highly selective, is in no way equal. Young people from low socio-economic status, working class, and disadvantaged backgrounds, as well as BAME communities, face significant structural barriers to accessing prestigious HE (Boliver, 2013; O'Sullivan et al., 2019b; Reay, 2017). At the same time, many may struggle to pay the high fees associated with elite education, or may face prejudice in the admissions process (Brand and Xie, 2010). As such, even accessing the means of developing employability is not equitable.

Beyond the inequalities of access, research has increasingly shown that successful graduate labour market outcomes are closely correlated with pre-existing socio-economic advantages. This is particularly apparent in access to the elite end of the labour market, usually professional, managerial, and financial jobs associated with high levels of autonomy and high salaries (Friedman and Laurison, 2019). Evidence suggest that graduates from BAME, disadvantaged, and/or working class backgrounds face challenges and prejudice in the recruitment process for these kinds of professions, even when they have degrees from prestigious institutions (Brown et al., 2011; Crawford et al.,

2016), or they face limits on their career progression (Savage, 2015). At the same time, gender inequalities both in terms of salaries and career profession are well documented in all labour markets around the world (Britton et al., 2016).

Researchers have highlighted a wide variety of potential mechanisms to explain the way in which inequalities are manifested across education systems and labour markets and how more advantaged students appear to deploy their advantage in employment contexts. These range from structural biases against particular individuals throughout their entire lives (e.g. Reay, 2017), bias of gatekeepers of elite professions leading to social reproduction (Brown et al., 2011), confidence and agency within the labour market (Brown et al., 2004), social and cultural capital and the ability to leverage powerful social networks (Bourdieu and Passeron, 1977; Rivera, 2015), and the wealth required to engage in low paid, precarious career trajectories that ultimately lead to higher financial returns over individuals' lifetimes (Robson et al., 2020). However, whatever the mechanisms, it is clear that employment and employability are unequally experienced by different kinds of students and graduates regardless of the investment they make in their learning.

Within the employability literature, attempts have been made to provide complex frameworks for understanding and alleviating some of these key structural inequalities. Redmond (2010), for example, has attempted to show the impact of social structures on employability through the formula: 'employability = qualification + work experience + strategies x contacts'. This particularly emphasises the power of the reputation of the credentialling HE institution and social networks on individuals' employability. Similarly, a range of literature has attempted to emphasise employability as a social process and provide nuanced discussions of social structures and inequalities that move beyond reified economic conceptualisations of skills by developing frameworks, often rooted in Sen's capability theory or Bourdieu's idea of capital (Burke, 2015; Mulder et al., 2009; Tomlinson, 2017).

However, despite these nuanced accounts, they often take place *within* a framework or policy context that emphasises the core contributions of HE in terms of employment and employability. Such accounts will always be limited by the fact that employability is fundamentally shaped by inequalities in society. Success in the labour market is structured by social relationships, power, wealth, class, ethnicity, and gender. There are winners and losers.

Given the fact that graduate employment and employability are so contingent on external factors and structures, discourses that reduce the contributions of HE to individualised financial returns at best cast a shroud over a deeply unequal society, hiding the profound structural challenges faced by a wide range of people. At worst, the employability agenda and associated assumptions of meritocracy provide a clear justification for elites to maintain their

elite positions in society and the labour market, blind to the social, economic, and political structures that ensured their success (Sandel, 2020). In effect, the graduate premium is a measure of societal inequality rather than a healthy economy or HE sector (Ashwin, 2020).

EMPLOYABILITY AS A PUBLIC CONTRIBUTION

As highlighted above, a key premise of some aspects of human capital theory and the employability agenda is the assumption that skills developed in education and training increase work productivity and that organisations will adjust employment systems to utilise all new potential productivity within the labour market (Holmes and Mayhew, 2016; Rubery, 2006). In other words, as well as providing private labour market returns at an individual level, graduate employability is also seen as a public good in that it drives economic growth, supplying employers with employees with the skills that are required for increased productivity. As such, for over three decades, skills policies around the world have tended to focus on boosting the supply of skills as a means to improving international competitiveness and productivity (see Brown et al., 2020; Payne and Keep, 2011). This policy approach has largely been driven by the assumption that global economies were and are going through the process of transiting to 'knowledge-driven economies' where demands for graduate skills rise.

There is a general consensus within the analytical literature that national investment in HE leads to economic growth (Hanushek, 2016). Different growth models receive substantial amounts of theoretical attention, particularly 'whether growth should be modelled in the form of growth rates of income, or whether it should be modelled in terms of the level of income' (Hanushek, 2016, p. 539): endogenous growth (e.g. Romer, 1990) or neoclassical growth models (e.g. Mankiw et al., 1992). Unpacking these models in detail is not possible here. However, across the world, analysis shows clear correlation between growth in investment in education and economic growth and analysis by Hanushek and Woessman (2012) shows investment in HE causes economic growth across a wide range of countries.

While these kinds of public contributions tend to be conceptualised in terms of national economies, it's clear that they can also be thought about at a local level, in terms of local economies. Many HE institutions around the world will supply graduates for local labour markets, creating localised high skills ecosystems (Finegold, 1999) and significant local economic growth (Cai and Liu, 2015). Silicon Valley is often held up as a key example of this kind of localised public economic contribution, with graduate employability and the supply of graduates with key technical skills underpinning core economic growth. Consequently, while the majority of governments have explicit skills policies

linked with industrial strategies, many countries also often have local skills strategies linked explicitly with driving local economic growth and ensuring educational institutions meet local skills demands (Keep, 2016). At the same time, with large businesses increasingly operating at a global scale, and an increasingly mobile student and graduate population, the relationship between HE as a supplier of skilled graduates that meet employer skills demands often takes place in a manner that crosses international borders and traditional national economic boundaries (Li, 2017). Graduate employability can, therefore, be thought of in terms of local, national, and international public goods.

However, the mechanisms behind growth are contested. While some explicitly link individual employability and skills supply with growth, work by Holmes (2013) and Holmes and Mayhew (2016) suggests there is little statistically significant connection between growth in tertiary education and productivity. They argue that while micro-estimates show some effects of HE on productivity, on average, countries that have shifted towards mass HE do not correspond with faster economic growth. In fact, growth in HE may even correspond with slower economic growth. There is, they argue, a clearer link between growth in secondary-level education and economic growth (Holmes and Mayhew, 2016, p. 486). Other studies have shown the importance of HE in the production of scientific knowledge that drives technological and scientific innovation (Vandenbussche et al., 2006; Veugelers, 2016) and arts and humanities related knowledge that makes economic contributions to the knowledge economy (Crossick and Kaszynska, 2016). These kinds of economic, knowledge-based contributions of HE, often referred to as universities' 'third mission', have been regularly highlighted as key public goods of HE (Marginson, 2016; Prendergast, 2010; Stiglitz, 1999). However, they are distinct from the promise of economic growth through the growing supply of skilled labour embedded in human capital theory and the employability agenda.

As such, while the economic public contributions of HE may be clear, the mechanisms are complex and often rooted in local contexts, national and international networks of knowledge, and business–HE collaborations. Framing employability as an economic public contribution of HE must be contextualised within the complex array of activities HE institutions engage in, beyond graduate employment related work.

Emphasis on Supply-Side Interventions

However, simplified discourses often conceptualise the relationship between HE and the economy in linear terms, where enhancing individuals' employability through the supply of key skills leads to economic growth. Such linear conceptualisations of supply and demand mean that any mismatch between

graduates' employability and labour market demands are characterised as a supply-side problem. At a policy level, the solutions are necessarily seen as rooted in changing the supply-side – HE. Skills gaps or shortages are met with policy-level pressure to change curricula or promote particular courses at the expense of others. A lack of graduate jobs, or, in economic terms, skills oversupply, often leads to initiatives to restructure education systems or close courses particularly associated with low labour market returns (Chertkovskaya et al., 2013; Rothwell and Rothwell, 2017).

As described above, such an emphasis on employability as a supply-side issue reflects the transformation of capitalism on a global scale in the 1980s and the consequential dominance of market individualism and neo-liberal approaches. Businesses' emphases on shareholder capitalism and maximising profits have led to a shift in employment patterns, reconfigured career structures, and increasing demands for 'job ready' employees that do not require additional, internal training – which comes at a cost to the employer (Elliott and Atkinson, 1998; Lauder, 2001). As such, Brown et al. (2003) have argued that the concept of graduate employability has enabled companies to shift the responsibility for jobs, training, and careers onto the individual and HE. The growth in the employability agenda should therefore be seen as both a symptom and enabler of an economic and political system that maximises shareholder profits at the expense of employers' responsibilities to their staff.

This is despite extensive analysis showing that, at a policy level, issues with skills mismatch, oversupply, undersupply, and weak labour markets are often best tackled through skills policies that are integrated with demand-side interventions, including economic development and business improvement, particularly in relation to work organisation, job design, and human resource development practices (Buchanan et al., 2017; Keep, 2017; Payne, 2018). For example, Green's study of how international cities have addressed inclusive growth highlights examples of what can be achieved by 'growing and shaping the labour market combining demand-led strategy to achieve high quality jobs with links to labour supply as a central component' (Green et al., 2017, p. 3). However, as Keep highlights (2017), tackling the demandside is particularly challenging for neo-liberal economies, where lightly regulated labour markets make it easier for employers to shift training needs onto individuals and educational institutions.

Thus, while graduate employability can be thought of as a public good, driving productivity and economic growth, there are clearly questions around deterministic understandings of economic growth and linear conceptualisations of skills supply and demand. Emphasis on the public contributions of HE through the language of employability can be seen as providing a vehicle for power shifts between employers and employees and a redistribution of education and training responsibilities wherein firms increasingly reduce their

investment in their employees, shifting the burden onto individuals and the HE sector, while receiving the benefits of a skilled workforce.

THE BROKEN PROMISES OF HUMAN CAPITAL THEORY

HE has an important relationship with the world of work and nuanced understandings of employability position HE as making a vital contribution to graduates' agency and their ability to engage in the labour market in the way they want. However, reductive conceptualisations of graduate employment and employability as a core contribution of HE have significant consequences for the way in which HE is shaped at a structural, practical, and policy level, and, more broadly for the identity of the sector, driving marketisation and market-oriented structures (Locke, 2011; Moodie, 2011).

As has been clear from this discussion, it is almost impossible to separate graduate employment and employability from human capital theory. The conceptualisation of the contributions of employment and employability are fundamentally rooted in the two premises that 'learning equals earning' and 'skills supply leads to economic growth'. However, the reality is that these ideas are clearly only true for some people and some economies some of the time. There are real wage inequalities that not only reflect differences in the value of individual skills, knowledge, and credentials, but, more importantly, also the structures of the labour market opportunities and differences in market power as well as a wide range of inequalities that cut across social orders around the world. Labour markets and social and economic structures control wages, not HE institutions. Graduate employment and employability are not absolute, they are relative goods. Therefore, employment and employability lack analytical coherence and adequate nuance when used as a device for conceptualising the contributions of HE in absolute terms, despite the fact that they increasingly underpin HE policy and public discourse.

While the concepts of graduate employment and employability provide a lens for thinking about the relationship between HE, the world of work, and the economy, these lenses clearly need to be critical and should be used to engage overtly with the political economy of skills and the shifting sands around the purpose of HE. At the macro level, the employability agenda has been seen to empower employers to reconfigure their relationships with employees and shift structural and financial responsibility for training onto individuals and institutions. At the meso and micro levels, there is a risk that the language of employability may not merely disguise social inequalities, but actively reproduce and even, as Ashwin argues, embed them in the very purpose of HE (2020).

Given the growing global inequalities (Sassen, 2014), there is a clear need to reimagine the relationship between HE, work, and the economy, and reconceptualise this relationship in a way that moves beyond linear models of supply and demand of skills, the premise of learning equals earning, and reductive understandings of the purpose of HE that purely foreground economic concerns. Marginson's concept of self-formation provides a useful tool for avoiding slipping into dichotomous thinking and conceptualising economic and educative contributions as mutually exclusive (Marginson, 2014; 2018).

Through a self-formation lens, the contribution HE makes to an individual's employment outcomes and ability to navigate the labour market is not conceptualised in absolute terms, rather it is rooted in the value that students and graduates place on their employability themselves. Embedding the relationship between HE and the labour market in students' and graduates' own self-formation, the extent to which they want to engage with economic goals of HE, and their own agency, shifts the debate from absolutist to relative terms, enabling a more nuanced theoretical understanding of the political economies of skills formation, the inequalities of society, and the vicissitudes of the labour market. Such a lens emphasises the importance of student and graduate agency and provides a way for thinking about the complex intersecting relationship between individuals, HE institutions and policy, and economic and social structures.

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10. UNESCO's common good idea of higher education and democracy

Rita Locatelli and Simon Marginson

INTRODUCTION

As was discussed in Chapters 1 and 2, higher education produces and provides conditions for the production of a broad range of social, economic, cultural and political outcomes (Marginson, 2016; 2020a; McMahon, 2009). Few of its outcomes take the form of tangible objects; though some are manifest as events, and various empirical proxies are used to track the processes and results of higher education. Most of its outcomes are below the surface, embodied in persons or groups, such as the acquisition of occupational skills, or manifest as changing social relations, for example the tolerance of difference acquired when studying languages or countries other than one's own. Social science struggles to theorise and observe this complex empirical terrain. In part this is because social science tends to fixate on the ways of seeing that are used by nation states, and for the most part their lodestone is the capitalist economy rather than a larger entity such as 'society' or 'culture' which would more fully incorporate the many engagements of higher education. In part, also, it reflects the genuine difficulty of comprehending something as diffuse and multiple as the outcomes of higher education, which connect to many agents with different perspectives and are constantly changing.

One useful distinction that can be made – though it is not made consistently in the literature – is that between individualised outcomes, that are specific to particular students or graduates, and collective outcomes, ranging from local communities or networks to the world as a whole. Figure 2.1 in Chapter 2 premised on this distinction, and makes a second distinction based on geo-spatial scale, between outcomes manifest beyond national borders and those solely local and/or national. (While Figure 2.1 provides examples of the four types of higher education outcome, it is not an exhaustive list.) The advantage of making the two distinctions used in Figure 2.1 is that they bring forward neglected aspects, especially collective goods, outcomes that

contribute to social relations and/or shared qualities or benefits; and global and international goods.

Collective goods, always a difficult problem in social science and government policy, are a principal preoccupation of this chapter. International goods pertain to connections between bordered nations ('inter-national'), while global goods pertain to the world as a single interdependent entity (Marginson, 2011b). In higher education there are many manifestations of cross-border connections, global diffusion and global systems, especially where knowledge is in play, including the networked global science system (Marginson, 2022; forthcoming). Knowledge slips freely across borders with lightning speed, though globally recognised knowledge is also structured by an inclusion/ exclusion binary that omits nearly all knowledge in languages other than English, most knowledge outside the sciences and all endogenous (indigenous) knowledge (Connell, 2014; Marginson & Xu, forthcoming; Santos, 2014).

However, in Euro-American countries, the main discussion about the outcomes of higher education, as expressed in social science and government policy, is *not* focused on the agent-centred distinction between individualised goods, such as augmented skills or wages, and collective goods such as combined productivity, literacy or tolerance. As was discussed in Chapter 7, it is focused largely on the distinction between 'public' and 'private' goods, as framed by economics, where public and private are zero-sum in relation to each other – that is, the more public are the outcomes the less those outcomes are private, and vice versa. In this framework, the normative starting point is not the beneficiaries or co-producers of the goods, but the macro-economy and state. This reflects the central preoccupations of liberal capitalist polities with the role of government, the extent of the tax/spend obligations of government and the creation of opportunities for market profitability, within the always contested borders between the state, market, civil society and the family/ person.

The public/private distinction was not designed to explain higher education, a distinctive sector, shaped by personal evolution in knowledge-intensive and culturally embedded institutional settings, that differs from commodity production in industrial economics and the circuits of universal value running through financial economics. When the public/private framework is retrofitted into the theorisation, observation and measurement of what happens in higher education, that framework does not work well. Higher education provides combined conditions in which individual students form themselves and this in turn contributes to the formation of societies, entailing multiple reciprocal permutations of the self and the collective. Are the reflexivities that are generated within and enabled by higher education 'public' or 'private'? Potentially, both dimensions are continually implicated in numerous ways. The only way to make a zero-sum public/private framework work is to radically limit the

defined outcomes of higher education. Nevertheless, the public/private framework is what we have in the English-speaking countries, and all of the countries influenced by Anglo-American ideas in social science and government policy that are transferred through the medium of neo-liberal policy economics. At world level the Anglo-American approach is currently the most influential framework for discussing higher education policy and funding – though the term 'public' does not translate identically into other languages, and zero-sum public/private distinctions are not culturally universal.

The framework of public/private has been supplemented by a secondary discourse about 'common goods', which again is derived from Euro-American tradition, but is more Western European in its resonances than Anglo-American. Common goods, which envision the beneficiaries as co-producers of shared outcomes, address certain problems in the public/private framework.

The chapter proceeds as follows. It begins with discussion of the real-world terrain of higher education that focuses on tendencies to massification and stratification, and the intersection with state strategies of privatisation and funding shared between government and households. Tendencies to the privatisation of provision and of funding, not universal but often pronounced, including in several large emerging country systems, have led to weakening of the discursive association between the shared virtues of higher education and 'public' provision by states. The chapter then moves to the conceptual terrain, noting the different meanings of 'public' and 'public/private' and their policy use, and pointing to the conceptual and practical impasse that has been reached. The final part discusses the United Nations Educational, Scientific and Cultural Organization's (UNESCO) 'common good(s)' idea, which has been shaped for global reach, and constitutes one response to both the tendencies to massification and privatisation, and the impasse reached in the discourse on the 'public' role of higher education. The social dimensions of higher education for the common good idea are explored. The chapter concludes with reflections on the implications of the COVID-19 pandemic in higher education, which highlights the problems of financing a collective approach, but underlines the need for it.

MASSIFICATION, STRATIFICATION AND PRIVATISATION

Between 2000 and 2019, just before the global pandemic, the tertiary education enrolment of the worldwide school leaver age cohort doubled, rising from 19.1 to 38.9 per cent. The number of tertiary students, more than half of them women and four-fifths in degree programmes, normally equated with 'higher education', increased from 100.2 to 227.6 million (UNESCO, 2021; World Bank, 2021). There were notable expansions in East Asia and the Pacific, and

Latin America and the Caribbean (Calderon, 2018). Nevertheless, there were continuing inequalities between and within countries.

While the gross tertiary enrolment ratio in 2019 was 87 per cent in North America and 73 per cent in Europe and Central Asia, it was 9 per cent in sub-Saharan Africa (World Bank, 2021). In addition, 'disparities based on income and other factors of social marginalisation remain widespread, and this despite a variety of policy measures in recent years. Learners from higher income groups have retained their relative advantage in access to tertiary education across the world. Even in countries with high enrolment rates' (UNESCO, 2015, p. 46). According to the 2016 UNESCO Global Education Monitoring Report, 'across 76 countries, 20 per cent of the richest 25–29 year olds had completed at least four years of higher education, compared with less than 1 per cent of the poorest' (UNESCO, 2017, p. 3). Differences between social groups in participation often widen as enrolment rates increase. The aggregate momentum for democratisation of opportunity is clear, and in many countries growing access is supported by scholarships, but such support can be captured by socially advantaged families. For many prospective students, the necessary academic and financial support is missing (UNESCO, 2017). If tertiary and higher education are public goods, or common goods, these goods are over-dominated by the affluent middle class, and unequally developed on a global basis.

Partial Privatisation

The massification of higher education has put pressures on public finances. Many states have responded by engineering a partial shift of costs from government to households. This trend is more pronounced in some emerging countries than in the Organisation for Economic Co-operation and Development (OECD) countries. In 2017, nearly 29 per cent of total expenditure on tertiary institutions in OECD countries was sourced from the private sector, after transfers from government to households for educational purposes are included in the calculation. This was similar to the level ten years earlier (OECD, 2010; 2020). Nevertheless, there is sharp variation between OECD countries in the private share of expenditure, mostly driven by differences in tuition fees. Households are the source of three-quarters of private expenditure on tertiary institutions in OECD countries.

> In countries where tuition fees tend to be low or negligible, such as Austria, Denmark, Finland, Iceland, Luxembourg and Norway, the share of expenditure on tertiary institutions sourced through the private sector (including subsidised private payments such as tuition fee loans) is less than 10 per cent. In contrast, more than 60 per cent of funding on tertiary institutions is privately sourced in Australia, Chile,

Japan, Korea, the United Kingdom and the United States, which also tend to charge students higher fees. (OECD, 2020, p. 300)

In some large systems outside the OECD group such as Brazil, India and the Philippines, the private share of costs is much higher and has increased during massification (McCowan, 2019). These differences between countries have implications for the way higher education is understood, for example the extent to which it is seen as an individualised good or a shared good from which all benefit.

States engineer private expenditure in higher education in two ways. First, through increases in tuition fees for students in state sector or public institutions, which can create access barriers. 'Direct and indirect costs of studies in higher education remain the main cause of exclusion' (UNESCO, 2015, p. 46). The OECD has found that 'between 2010 and 2016, on average across OECD countries, private expenditure on tertiary educational institutions increased by 3 per cent on average each year while public expenditure grew by just under 1 per cent a year over the same period' (OECD, 2019, p. 2). Second, privatisation of institutional provision. Private institutions vary. Some are partly government funded, some not. Some are profit-oriented, some are non-profit. 'They may have owners or investors or operate as foundations' (Altbach et al., 2009, p. 79). What they have in common is that they are not required to respond to government to the same extent as public institutions. Much of the growth in higher education has been and continues to be in the private sector. In 2015 more than 30 per cent of students were enrolled in private higher education institutions worldwide.

[N]ew kinds of private providers have emerged, in the form of international branch campuses and international online providers. In Latin America, private enrolments account for 49 per cent of the total. In Brazil, Costa Rica, El Salvador, Honduras, Nicaragua and Peru, more than 60 per cent of students in 2015 were enrolled in private institutions, along with more than 80 per cent of students in Chile and Paraguay. In Asia, private enrolments make up 36 per cent on average, where countries such as Indonesia, Malaysia and Thailand are experiencing the same trend. Open education providers are also gaining ground. Gross enrolment rates in Turkey grew from 30 per cent in 2004 to 86 per cent in 2014 in part due to distance education enrolments. Over 1.7 million undergraduate students enrolled at Anadolu University in 2014, almost a third of all higher education enrolments in the country. (UNESCO, 2017, p. 2, citations removed)

In some countries such as Brazil the growth of the for-profit sector, a pure capitalist form of tertiary education provision, has been especially important in the expansion of student places.

Stratification

The retention and worsening of the social stratification in massifying and high participation systems is a constant finding in research on higher education (Cantwell et al., 2018; Shavit et al., 2007). Stratification is apparent both in the extent to which different social groups access higher education and in who gains access to the highest status institutions that tend to be associated with the best life chances. The social stratification of the population tends to become aligned to the hierarchy of institutions. This cannot be attributed only to the part-privatisation of provision plus government-induced transfers of costs between government and households. Two other factors are in play.

First, there are structural tendencies to inequality hard-wired into the process of expansion of participation itself. As a higher education system grows, three things happen: it includes a larger proportion of the population in the system; the social value of participation is more differentiated between the larger number of institutions; and places in the most sought-after universities do not expand, or they grow at a slower rate than the system as a whole. Competition for entry into the most sought-after places is sharpened. These places are increasingly monopolised by affluent families with the best resources, insider knowledge and strategies with which to compete (Lucas, 2001). Unless egalitarian government policies are in place, the hierarchical structure of educational provision and the social hierarchy tend to reinforce and reproduce each other. High participation systems of higher education increasingly come to resemble society as a whole (Marginson, 2018b). While high participation higher education systems are more socially inclusive, all else being equal, their capacity to change social distribution might be less than that of systems with a lower level of participation, where a strategy of focused inclusion of under-represented groups can promote upward mobility.

Second, there may be deep-seated factors that inhibit the development of systems based on universal access to outcomes of equal value in higher education. Pursuing higher education as a public good would imply an ambition to make the sector non-excludable and non-rivalrous, that is, universal access. While this, or something like it, has been achieved in many countries in primary and secondary education, it has not been achieved in higher education. The French anthropologist and demographer Emmanuel Todd (2017), who focuses on the history of family values and patterns in social organisation in different parts of the world, argues that the combination of educational patterns and family values is foundational to society and economy. He finds that in individualistic Western countries, in which the nuclear family structure is dominant, there are no inheritance systems, and no fixed paths sustaining equality, the development of higher education has become inherently associated with inequality. In the third educational revolution which began in the US in the first

decade after World War II, higher education evolved as multiple and stratified, and was socially stratifying in turn. Only some members of the population achieved graduate status. Todd refers to an 'intellectual ceiling' (2017, p. 288), though where such a ceiling falls would be difficult to determine. Todd (2017) notes that Michael Young in 1958 anticipated the implications of the meritocratic principle, which led to social stratification based on the systematic educational selection of the population. While the universal access to primary and secondary education nurtured an egalitarian, democratic social subconscious, higher education fostered the idea that people were not equal. The function of higher educational institutions was not to emancipate citizens but to determine their classification and orientation. The faculty, who saw themselves as liberal, leftist and progressive, was in fact a powerful organisation that selected and educated the one-third of the population defined as superior.

Todd (2017) states that by the mid 1960s in the US, higher education had broken down the cultural homogeneity of society, detached people from the ideal of equality and readied them for economic disparity and the neo-liberalism of the succeeding decades. The crises of liberal democracies evident in 2016 in the UK with Brexit and in the US with the election of Trump were grounded in the social fragmentation resulting from educational stratification. In contrast, China and Russia are based on stronger community patterns, characterised by authority and hierarchy and less rooted in individualism, and have proven more cohesive. Todd argues that to render higher education systems more equitable it is essential to find counterweights to the individualistic meritocratic principle, grounded in a new social pact that incorporates the aspirations of society.

Problematisation of Higher Education as 'Public'

The balance between the costs and returns of tertiary education is related to arguments about the summative character of higher education: public or private, collective or individual, or some kind of mix? It is widely assumed that the funding ratio between households and state should match a ratio of outcomes or benefits; even though there is no evidence that enhanced private benefits seen as associated with higher education (e.g. higher graduate earnings) necessarily mean that the public, collective or common benefits have diminished. Higher education affects not just graduates but society in general. Ironically, policy arguments for enhanced private costs are often advanced in countries where the average returns to graduates are *declining*, because of massification.

In that context, emphasis on the private benefits functions as a rationalisation of fiscally driven decisions to reduce the obligations of the state, and ideologies of higher education as a component of a capitalist 'knowledge

economy', in which the expansion of markets is seen as the precondition of economic competitiveness and prosperity. These policy ideas, together with the part-marketisation and part-privatisation of the sector, which tend to highlight the private benefit, and institutionalise the market mentality, problematise the concept of higher education as a shared and universal benefit and have undermined the understanding of the sector as primarily focused on 'public good(s)'.

CONCEPTS OF 'PUBLIC' IN HIGHER EDUCATION

In the English-speaking discourse of 'public' and the 'public/private' the meanings are multiple, diverse and confusing. These were reviewed in Chapter 7, and will be summarised only briefly here.

First, the form of 'public' dominant in economic policy is in the dualistic pairing of public with private as an analytical device. Public/private are seen as two mutually exclusive halves of a whole, in a zero-sum relation. The public/private dualism has two forms (Marginson, 2018a). In one, 'public' refers to government or state, as in 'public sector'. Thus a national, state or public university is distinguished from a private university. In the other form, society is divided into two parts: the market setting where private property and commodities are exchanged and private goods are produced, and the non-market setting where government-owned property is organised and public goods are produced (Ostrom, 1990). This embodies the norms of a limited liberal state. The formula is irrelevant where the state has a comprehensive not limited mandate, as in, say, Norway or China; but together with human capital theory, which emphasises the private benefits, it frames Euro-American economic policy on higher education. Public goods are limited to residual functions (instances of market failure, such as basic research) and incidental spillovers from private transactions. However, the extent to which higher education is practised as a Samuelson private or public good is a function of policy.

The second use of 'public' begins with the idea of broad or inclusive assembly (*the* public, public opinion) and open communications ('going public', public media, public relations). This public is not opposed to private. The communicative inclusive public provides conditions for social interaction between individuals. This kind of 'public' is ambiguous in relation to the public/private dualism. The role of privately owned social media blurs the lines between public/private and polity/economy. This also points to the limitations of the universal communicative public as a democratic form. Power within this kind of public sphere can be notably uneven and there can be closure as well as openness. The socially inclusive public has resonances in higher education, which constitutes open social participation and is often strongly networked within local, national and global society.

The inclusive communicative public shades into a third more normative meaning of 'public' as the universal public good, an inclusive condition of welfare, virtue or prospect (Mansbridge, 1998). This notion has rhetorical power but is unclear in relation to agency. Ostensibly, it suggests the need to strengthen the functions and role of the state. Private actors cannot be expected to pursue the public good separately from their own interests (Locatelli, 2019). However, in Euro-American political cultures there is often scepticism about the claims of the state to embody the public good. Still, the broad-based public good can kindle hopes. It suggests that higher education contributes to common development, in contrast to a limited economic utilitarianism (Ver Eecke, 2008). Biesta (2012) remarks that becoming public is about 'the achievement of a form of human togetherness in which … action is possible and freedom can appear' (p. 693). It is always essential to consider which public benefits are met, whose interests they serve, and who defines and regulates them.

International Variations

While the English-speaking ideas of 'public' and 'private' have widespread influence, parallel or similar terms in other languages can carry differing meanings. In France 'public' combines the assembly of all citizens with a positive state not as limited as its Anglo-American cousin (Carpentier & Courtois, 2020). The state has larger responsibilities, and broader support, in the Nordic world, where it is often equated with society. There is less tension between private as individual and public as state. As extensively discussed in Chapter 7, in the Chinese civilisational tradition, the 'private' individual and household domains are not separated from larger collective entities such as the community or the state but nested within them. The reach and responsibilities of the state are not limited within a division of powers, but comprehensive in character. The state customarily intervenes in any sector to secure order and prosperity. 'The public' as the inclusive and communicative domain of all the citizens, in civil society rather than the state, is less developed (Marginson & Yang, 2022).

Despite the differences in political cultures across the world, economics presents as a universal discipline. The Anglo-American neoclassical economics of higher education has migrated with success to different political cultures and policy settings. Samuelson's (1954) zero-sum dualism is influential well beyond its home. From time to time it is invoked to explain the public/private split of costs, or in the advocacy of reform, in France, German-speaking, Nordic and Chinese debates. However, in all those jurisdictions the role of the state in financing remains stronger than in Anglo-America.

Meanwhile, in Anglo-America, as in most countries, the state remains a key actor in framing the character and role of the higher education sector. Some

governments exercise that role through direct state financing and provision; others primarily through managed quasi-markets. It is only where the state is unable or unwilling to retain control that the private sector is the primary shaper of higher education, as in the for-profit sectors in Brazil, Philippines and parts of sub-Saharan Africa, and in the vast largely decentralised sector of small low quality private colleges in the states in India. In these examples the 'public' presence, in all of the senses discussed above, is relatively weak.

In Sum: Limitations of 'Public Good(s)' in Higher Education

In sum, in the Euro-American, and primarily Anglo-American, discourse in higher education policy, the term 'public' is so multiple and contradictory in meaning as to be incoherent. 'Public' is both political or economic, state-defined or market-defined, broadly inclusive or narrowly residual, and normatively negative or normatively positive. There is no consistency in the relation of 'public' and 'private'. In one meaning they are zero-sum, while in another the public is the aggregate of all the private citizens.

The 'public good' in its most widely used sense is understood as a condition of shared benefit, albeit poorly defined in terms of responsibility for its creation and the extent to which benefits are justly distributed. On the other hand, both politically and economically defined 'public goods' may constitute no particular benefits for a population at all. For example, when a nation state wages an aggressive war against a neighbouring state, it produces 'public good' in Samuelson's (1954) sense, and it is also 'public' in the sense of being state controlled, driven and executed. Yet it can be argued that this form of public action subtracts from the 'public good' understood as common welfare.

These problems in the notions of 'public good' and 'public goods' suggest the need for an alternative conception that is less normatively ambiguous, enables key issues such as distribution to be addressed, and positions both social commonality and the state in terms of democratic agency from below. In higher education policy there is a need for a policy discourse which aligns the formative effects of higher education for individuals with the collective social benefits: that is, a framework that acknowledges the contributions of higher education to both self-formation (including earning power) and social formation, without these outcomes being positioned as either separated or zero-sum. It is also necessary to address the collective outcomes of higher education much more fully than in Samuelson's formula, in that process moving beyond merely utilitarian economic approaches.

HIGHER EDUCATION AND THE COMMON GOOD

For more than two decades UNESCO has sustained an evolving discourse about higher education as a public good and a common good. UNESCO, like policy makers and scholars everywhere, has had to wrestle with the difficulties inherent in the concepts of public good and public goods, and the problems of applying them in different political-cultural contexts. It has also had to contend with the contrasting perspectives of other pan-national agencies committed to marketisation of the sector.

Public Goods versus Tradable Goods

In contrast with the discussion of primary and secondary education, discussions of 'public' in higher education have centred less on questions of state delivery and ownership than on issues of funding and the purposes of higher education institutions (Marginson, 2011a; Tilak, 2009; UNESCO, 2009). This reflects the fact that private sector institutions play a relatively strong role in the sector in many countries, and also a judgement that state funding and regulation are the most fundamental public elements in securing equitable and affordable higher education opportunities in the face of the striking inequalities affecting higher education worldwide (Marginson, 2016; UNESCO, 2017).

In 1998, article 14 of the UNESCO *World Declaration on Higher Education for the Twenty-first Century: Vision and Action* referred to higher education as a public service, since 'public support for higher education and research remains essential to ensure a balanced achievement of educational and social missions'. As UNESCO saw it, though shared public/private funding was often used, the role of the state continued to be essential in policy terms. At this time, the World Trade Organization (WTO) was developing its General Agreement on Trade in Services (GATS), including the transnational development of higher education through trade liberalisation. The UNESCO discourse asserted the concept of higher education as a public good rather than a tradable service or good, contrasting with the WTO and to an extent also with the OECD (2004), which shared some of the WTO enthusiasm for the potentials of international education as a tradable good. The UNESCO understanding also conflicted with that of the World Bank. In its 1998 publication on *The Financing and Management of Higher Education: A Status Report on Worldwide Reforms*, the Bank saw higher education mainly as a private market oriented good. 'The reform agenda of the '90s, and almost certainly extending well into the next century, is oriented to the market rather than to public ownership or to governmental planning and regulation' (Johnstone, 1998, p. 3). While recognising that public higher education was here to stay, the Bank

recommended that further expansion should take place in the private sector, with government regulation to take care of social equity.

In a UNESCO paper on *Diversification of Higher Education and the Changing Role of Knowledge and Research*, Guri-Rosenblit and Sebkova (2004, p. 57) argued that 'seeing higher education as a "public good" is a particularly important consideration if higher education is required to meet the challenge of providing a mass quality higher education at all levels of the higher education system, from the top elite research universities to community colleges and professional tertiary-level institutions'. UNESCO maintained its concerns about the commodification of higher education services and the potential for the weakening of states in the governance of higher education system. The final report prepared for the UNESCO 2009 World Conference on Higher Education warned that:

> [S]hould a GATS treaty be signed, or regional trade agreements take hold in more substantive ways, it would most likely contribute to the influence of for-profit providers of education and educational services whose products are rarely adapted to local priorities or need and undermine the ability of individual countries to regulate these entities' (Altbach et al., 2009, p. 35)

The Communiqué of the 2009 conference emphasised that, as a public good, 'higher education must be a matter of responsibility and economic support of all governments' (UNESCO, 2009, p. 1).

UNESCO did not completely break with the other agencies. It noted that public funding could be complemented with private resources, even though ultimate responsibility lay with states. The final 2009 Communiqué stated that 'while every effort must be made to increase public funding of higher education, it must be recognised that public funds are limited and may not be sufficient for such a rapidly developing sector. Other formulas and sources of funding, especially those drawing on the public-private partnership model, should be found'. The public good was to be delivered through policy oversight not a government funding monopoly. Interestingly, the Communiqué also stated that responsibility for collective benefits also extended beyond states: 'higher education as a public good is the responsibility of all stakeholders, especially governments'. This foreshadowed UNESCO's subsequent development of the idea of higher education as a common good.

UNESCO's Education as a Common Good

Following a period of internal discussion, UNESCO developed a new perspective on the public good problem, publishing *Rethinking Education: Towards*

a Global Common Good (2015). This entailed a double movement away from state-based approaches and towards grass-roots democracy.

The pamphlet argued that 'both public and private sectors have a stake in the building of inclusive knowledge societies' (p. 73). It noted the trend to privatisation of enrolments in many countries, which, when unregulated, pose dangers for access and quality. The state must continue to guarantee the right to education, 'preserving the principles of non-discrimination and equality of opportunities in access to post-basic levels of education and training' (p. 76). Nevertheless:

> It is no longer clear what the notion of 'public' means in the new global context of learning, characterized by a greater diversification of stakeholders, by the weakening capacity of many nation-states to determine public policies. … The nature and degree of private engagement in educational provision is blurring the boundaries between public and private education. This is evident, for example, in the growing reliance of public higher education institutions on private funding; the growth of both for-profit and nonprofit institutions; and the introduction of business methods in the operation of higher education institutions. … The rapidly changing relationship of society, state and market is creating a dilemma. (UNESCO, 2015, pp. 76–77)

UNESCO (2015) noted the origin of public good theory in market economics, adding that 'the transfer of an essentially economic notion to the field of education has always been somewhat problematic' (p. 77). There was a common misconception that 'public goods' in the sense of non-rivalry and non-excludability had to be provided by states. It suggested 'common goods' as an alternative. 'Common goods have been defined as those goods that, irrespective of any public or private origin, are characterized by a binding destination and necessary for the realization of the fundamental rights of all people' (p. 77). While moving away from reliance on states and opening the door to the full range of non-state actors, UNESCO grounded the approach in Western European communitarianism: 'The common good may be defined as "constituted by goods that humans share intrinsically in common and that they communicate to each other, such as values, civic virtues and a sense of justice" … a solidaristic association of persons that is more than the good of individuals in the aggregate' (p. 77). This had implications for the governance of education, which was necessarily participatory; and also for the governance of knowledge: 'the creation of knowledge, its control, acquisition, validation, and use, are common to all people as a collective social endeavour' (p. 80).

The turn to common goods implies both a larger role for civil society (UNESCO, 2015, pp. 80–81) and a continuing role for the state in regulating access and quality in the private sector (p. 82). UNESCO's move constitutes a balancing act, with an inherent ambiguity. It is more difficult to guarantee equality of opportunity in this framework than one based primarily or solely on

state provision, especially as the state willingness to regulate non-government sectors tends to vary. On the other hand, the common good framework offers a new basis for installing social responsibility among private actors, overcoming the limits of the classical liberal framework in which – it is more a matter of hope than certainty – it is expected that the selfish pursuit of private interests will somehow aggregate to the combined welfare (the 'greed is good' notion). The common good norm constitutes a more virtuous setting, and grass-roots mechanisms for monitoring private embeddedness in shared projects. The flexibility of the common good idea also enables collective values to be pursued in a range of different societies with varying approaches to the role of the state, from the US to China (Tian & Liu, 2019), both of which have strong traditions of grass-roots community organisation.

Developing the Common Good Idea

The use of 'common' as an adjective dates back to Roman law which designated certain things as common (*res communes*), for example air, running water, the sea and its shores. These resources are considered common by nature: they cannot be owned and can be used by all. However, it was not until the second half of the twentieth century that common goods, also classified in economics as common-pool resources or common property resources, were generally considered among scholars. The more recent interest in the commons derives from congestion issues, triggered by social over-use and ecological destruction. Garrett Hardin (1968), an American ecologist and philosopher, addressed these issues in an influential article in *Science* on 'The tragedy of the commons'. For Hardin this denoted a situation where an individual, acting independently and rationally according to its own self-interest, behaved against the best interests of the whole community by depleting common resources.

In *Governing the Commons* (1990) Elinor Ostrom formulated an innovative hypothesis on how to avoid the tragedy of the commons. She argued that human beings do not always respond to egoistic and self-interest logics. Forms of cooperation can be found to avoid the overconsumption of a specific good or resource, while enlarging the community of beneficiaries. Conditions of sustainability can be determined by the communities themselves, managing their shared resources. Ostrom rejected the division of the world into state and the market, arguing that there are social forms that differ from 'public' and 'private'. The 'common' does not necessarily designate a system of ownership and belonging but rather a method of governance and of consumption (Nivarra, 2012).

Although the classification of the commons has expanded to include natural, ecological, social and cultural goods, and more generically material and immaterial goods, there is a minimum semantic core with the following features: (1)

opposition of the commons to the dynamics of neo-liberalism; (2) networks of cooperation in communities; (3) instruments of participatory democracy (Coccoli, 2013). Arguably, in the field of education, the concept of 'common goods' is preferred to that of 'commons'. The latter seems less applicable to goods or services such as education, which require public institutions to play an important role in governance. Here the way that 'commons' is defined and used should not be confused with the concept as framed within the economic theory and presupposing rational-optimising actors. Common goods are not goods as in the economic idea of public/private goods, but goods in the broadest sense: tools, activities, values, rights and processes (Locatelli, 2019).

The concept of common goods provides an alternative to the spread of market policies in private and public domains. Common goods exceed the more instrumental concept of public goods. Unlike public goods, some of which can be enjoyed as individual goods, common goods necessarily require forms of collectivity and shared governance both in their production and enjoyment (Deneulin & Townsend, 2007; Taylor, 1995). These goods are grounded in the cultural and social dimensions of community and identified for their contribution to the general interest, including conditions of justice and well-being. The concept of common goods at the micro-level is related to the macro-level, *the* common good, 'understood in terms of social solidarity, social relations based on universal human rights and equality of respect' (Marginson, 2016, p. 16). Table 10.1 distinguishes between public goods and common goods on the basis of principles and theories, nature, governance and value.

The foregoing argument suggests that the practical task in higher education is to develop new approaches that strengthen participatory and deliberative processes and sustainable and equitable institutions. Higher education as a common good emphasises the intrinsic and societal value of higher education institutions whose purpose is to extend human understanding through the three functions of teaching, research and community engagement. It suggests the university is a shared societal resource, and calls into question the utilitarian model of higher education as an individual socio-economic investment. It favours a humanistic approach, and enhancement of the cultural, social and relational dimensions of each educational process. It highlights the pursuit of learning as a shared endeavour and responsibility, with implications for the organisation of higher education systems, including participatory processes and sustainable forms of cooperation grounded in diverse realities.

Higher education as a common good highlights the relational dimension of teaching, in contrast to the trends to separation and individualisation in the education process that are associated with the market model. It foregrounds not only the usefulness of research, but the longer perspective. The third mission of universities becomes more important than before: it contributes to the envisioning of new social structures and to democratic development.

Table 10.1   Comparison of public goods and common goods

	Public goods	Common goods
Principles/ theories	Equity and social justice	Besides equity and social justice, also solidarity and cooperation
	Political economy theory	Philosophical and political perspective
	Subjective conception of rights	Relational conception of rights
Nature	Can be enjoyed as individual goods	Necessarily shared, both regarding production and benefits
	Non-excludable and non-rivalrous characteristics presented in terms of consumption of a commodity	Non-excludable and non-rivalrous characteristics presented in terms of participation and generation of the goods themselves
	The public quality is predetermined	The common quality is dynamic and not pre-existing
Governance	Public governance justified on the basis of externalities which extend to all	Shared governance justified on the basis of the cultural and social value of a specific good
	Result of the action of public institutions	Result of the interaction of the different components of society
	Top-down approach	Bottom-up approach
	Passive role of those who benefit	Active role of those who benefit
	Formal democracy	Substantial participatory democracy
Value	Limited to the provision of facilities and services to a certain national community	Necessarily imply the empowerment of all actors who have a right to a fully informed and critical participation
	Neutral context	Acknowledgement of the diversity of contexts and of the cultural and social dimensions of a specific community
	Instrumental, can be treated as economic resources	Cannot be reduced to economic resources or to factors of production because of intrinsic social and relational value

Source: Locatelli 2018.

The engagement imperative points in the opposite direction to international rankings, which create pressure to prioritise elite research over local engagement (Chankseliani and McCowan, 2020). Higher education as a common good offers a way out of current limitations. 'Universities are embedded in a global economy of knowledge and are shaped by its inequalities', states Connell (2019, p. 191). Yet their privileged position allows them to question imbalances of power in the governance of knowledge, and counteract trends

to knowledge commercialisation, if they choose to do this (Biesta, 2007). In reality, the creation of knowledge is always a collective process which is intrinsically shared and, to subject it to market principles, including individualisation and commodification, is to disguise this. The concept of higher education as a common good highlights cooperation within the higher education system. Connell argues that:

> A good university system is cooperative rather than antagonistic and competitive. Whatever the level of resources, the work will be most effective – and efficient – if universities consistently give each other respect and support. Only a system organized for cooperation will allow specialization, division of labour, regional and institutional diversity, and sharing of facilities, without institutions having to fear they will lose status or money. (Connell, 2019, p. 175)

CONCLUSION

The COVID-19 pandemic has highlighted the central role of higher education and the expectations that surround it. Despite the difficulties, enrolments have been maintained and even increased in many countries; and during periods of shutdown of in-place institutions, desires for the resumption of face-to-face learning and the common sociability have been profound. More generally, the pandemic has drawn attention to the interconnectedness of societies and the fact that such global challenges can be promptly addressed only through cooperation. The concept of the common good can be 'the central pillar around which a more equitable and sustainable post-pandemic model of education may be built, and a guiding principle by which we may reform our higher education practice' (Brotherhood et al., 2020). At best it opens the prospect of beginning to mitigate the effects of the steep social stratification that has developed in the last 40 years (Piketty, 2014). A new societal and educational pact is necessary if we want 'to reverse the growing gaps between rich and poor countries, between well-endowed and resource-limited institutions, and among learners' (Salmi, 2020, p. 12).

The pandemic has emphasised the fragility of higher education in those countries where the market imaginary is uppermost. Higher education systems dependent on student fees, in which higher education is seen as a private good and is therefore open to consumer resentment at every subtraction from the expected service (compounded by the tendency of institutions to promise more than they should), have proven more fragile than the public good systems during the pandemic. Many private institutions in different countries across the world have been forced to close. The universal move to online teaching has raised issues of equity for students who have limited or no access to the Internet: 'not all students have devices that can connect and many such devices are unsatisfactory for the full range of learning functions. Access to

digitally-based education is mediated by social factors as well as national location and geography within nations, and affects wealthier countries as well as poor countries' (Marginson, 2020b, p. 6). The pandemic has also highlighted issues of access and retention. Students from poorer backgrounds who need to work during term have found it difficult to support themselves. These equity issues are deeply felt and widely discussed in market-based systems as well as others, suggesting there may be a core support for certain common good values in all countries.

The serious economic problems caused by the pandemic may place enormous pressure on future higher education budgets, as governments will have limited financial capacity. Nevertheless, despite this factor, which may propel some governments to push higher education towards greater private funding and justify that with the discourse of private benefit, the stop-start dynamic induced by the pandemic opens the possibility of reframing the purposes of higher education as a common good.

The concept of higher education as a common good allows collective goods in higher education to come into their own. It matches collective outcomes with collective agency. It also presupposes a different model of interaction among universities, moving beyond a narrow competitive perspective. It suggests scientific and academic cooperation in which the objective is not only to improve the single institution, but society as a whole. Since higher education is one of the principal factors driving social inequality, greater equity within the system is one precondition for creating stable societies grounded in democratic culture and values. Public funding and regulation are necessary to promote equity, but this alone is not enough to counteract existing inequalities in higher education. In addition, a new approach and model should be developed which allows universities to be truly engaged in civic and social life, as summed up in the following quote by the Italian politician and intellectual Aldo Moro:

> If you want the University to be a serious place that does not give the impression of somewhere empty, closed and outdated … let there be life there, let society with its doubts be reflected, and let the difficulties of human coexistence be understood and dealt with. Let this small society be a bridge to life. (Moro, 1946)

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11. Understanding the contributions of higher education through the politics of reform

Brendan Cantwell, Daria Platonova and Isak Froumin

INTRODUCTION: ON THE NONINDEPENDENCE OF HIGHER EDUCATION

All attempts to rationalize the provision of higher education ask a basic question: what contributions does higher education make to society? Delineating higher education's contributions is difficult to do in the abstract. In part this is because higher education is somewhat different from other sectors in which people and states invest.

Higher education is an intangible sector. Investment in physical capital such as roads and bridges, buildings or machinery is tangible. It is easy to see a new rail line and to understand its contribution by simple measures like the reduced time to travel between cities. Consumption services or welfare benefits like restaurant meals or public nutrition voucher programs generate an immediate return, even if the direct benefits dissipate shortly after the point of consumption. A meal out is a pleasurable experience and food benefits feed hungry families. Higher education is different because it is neither durable and tangible (although some universities have extensive physical plants) in quite the way a railway or seaport is but nor is it a consumption good. Higher education is something that is for most participants experienced during a relatively brief period of time as a student, but is expected to yield lasting individual and social benefits. The benefits, or returns to higher education, are very difficult to observe directly and even more difficult to attribute exclusively or in precise portions to higher education.

The cognitive and emotional stimulation someone might experience in an art gallery, for example, is very likely enhanced by the study of arts which provides a background of knowledge and a set of analytic tools for cultivating one's own application. But to attribute the pleasure someone experiences when

gazing at a particular painting directly to higher education stretches credulity. And we are likely to find little agreement about the value of the experience of taking in art. Policymakers frequently hold instrumentalist views about the value of higher education and those views are often shared by members of the public and even students. A transactional understanding of higher education is pervasive but it is not the only view. Some countries adopt a more instrumentalist approach to higher education than others, but nowhere is there an uncontested, single, understanding of what higher education should do, for who and under what conditions.

How then do we assess if higher education is doing what it is supposed to do and worthy of support? Cost–benefit analyses (e.g., Patrinos and Psacharopoulos, 2020) provide one answer by weighing financial costs against estimates of financial returns. Cost–benefit assessments may be helpful for informing investment but tend not to account for social contributions beyond a narrow set of economic concerns. The economist Walter McMahon reconceptualized human capital theory to measure nonmarket contributions such as health outcomes, criminality, and pro-social and civic behavior (McMahon, 2009), and subsequent research extends this work (Doyle & Skinner, 2017; McMahon, 2018). Expanded human capital research attends to a particular type of civic and political participation. For example, Doyle and Skinner show positive effects of participation on voting and volunteer behaviors in the United States and attribute these behaviors to human capital acquired through education. Their research provides a good basis for expanding measurable outcomes through a human capital framing but may have only limited applicability in other countries. If human capital is the mechanism that links higher education to voluntarisms, for example, does that imply that higher education fails to generate human capital in countries without a culture of voluntarism? Sticky questions like this present conceptual and methodological challenges for comparative research into the contributions of higher education.

Perhaps because of the challenges of identifying and measuring contributions, rate of return or return on investment (ROI), analysis remains the primary mode of assessing the value of higher education. Economists loom large in contributions research. Economic theory and methods offer a rich tool kit, but can only take our understanding of the question so far. Limits to the economic approach include the assumption that contributions will be the same everywhere, a narrow definition of public goods and the challenges of measuring contributions that resist quantification (Marginson & Yang, 2022). Philosophical work can help to overcome some of the limits of rate-of-return type approaches to the study of higher education contributions but there is also a need for empirical and applied investigation. Empirical study can test and refine theory and is useful for grounded theory building. Empirical findings are also helpful to communicate with policymakers and the general public.

Understanding higher education's contributions empirically, even from a grounded approach, requires taking on some assumptions. We hold that higher education's social consequences are real. But we further assume that what amounts to a contribution is in part based on cultural values, socially constructed priorities, political processes and economic conditions. The word *contribution* refers to something that helps to bring about something else. Higher education is integral to contemporary social formation (Cantwell et al., 2018), which establishes a broad meta-contribution almost tautologically. Because higher education is constitutive of contemporary social formation, it is involved in the bringing about of numerous facets of social life. Transnational social integration through direct exchange and the circulation of ideas means that we cannot assume higher education's contributions are contained within a nation-state. Yet even as globalization widens the scope of transnational social relations, higher education remains nested in particular national and local historical, cultural and economic contexts, making a singular theory of social contribution difficult to apply everywhere (Carnoy et al., 2014). Assuming that higher education is integral to contemporary social formation and constituent to global processes opens the potential to overstating the scope and scale of higher education's contributions. To counter the temptation of aggrandizement, we propose that higher education is grounded by, and at least partly subordinated to, political processes. In doing so, acknowledge that higher education is a partly self-organizing sector with agency. Political actors cannot do what they want to higher education without restraint and individual and collective actors within higher education can and do exert political power. Simply, higher education is assumed nonindependent of social, economic and political processes. Therefore, contributions of higher education are determined at least in part by the ways in which higher education insects and interacts with social, economic and political spheres. In this chapter, special attention is given to the politics of contributions.

THE POLITICAL ECONOMY OF REFORM

To understand how contributions are determined, or at least defined, through interaction of higher education and politics, we turn to reform processes. Reform politics and policy political processes are continuous, but policymaking is episodic. Like most social sectors, higher education does not lack for problems or proposed solutions, although most of the time the majority of identified problems are not addressed with a policy solution and the majority of policy proposals are never adopted and implemented. Sustained reform movements require resources and commitment, often from social elites and the state. Reform movements may both reflect and shape public opinion. While sustained reform movements invariably shape higher education, they may not

achieve specified goals. Even when governments gain agreement over the idea and implementation plan of the specific reform or limited intervention, the results often fail to realize intentions (Scott, 1997).

This chapter proposes that examining higher education reform efforts can reveal the expected, anticipated or aspired contributions of higher education held by the constellation of actors that drive reform. Such an approach is consistent with comparative political economy research, which shifts political analysis from voters, legislative bodies and government agencies to institutional actors, and the interaction between institutions and formal political processes. Business firms are centered in comparative political economy work (e.g., Hall & Soskice, 2001), but the analytic approach works well for other institutional actors such as higher education. Such an approach moves away from pluralistic and principal agent models of higher education decision-making. Pluralist models assume aggregated citizen preferences are expressed through policy. Principal agent models assume policy is designed to cajole higher education to deliver on expected outcomes in exchange for public support. Both assume the independence of higher education from politics. By contrast, our approach assumes political dependence. Here, we ask, "what is the mission of higher education within this state project, and what role do various elements of the state play in meeting that mission?" (Pusser, 2018, p, 26). This question allows us to use reform processes to understand how contributions – or in Pusser's parlance, mission – of higher education is established through politics.

By tracing the logic of reform projects, one can glean the ideological priorities for the sector held by the individual and collective actors that shape reform agendas. This chapter identifies the expected, desired or aspired contributions from higher education as established through major reform efforts. A goal of the analysis is to develop a better understanding about how different social and political formations produce overlapping and divergent expectations about what the sector ought to contribute – in a sense, how the mission of higher education is established. Reform movements, however, develop a logic of their own and require participation by a variety of actors with their own agendas and attentions. Higher education is also difficult to steer, because the sector is complex and partially self-organizing (Cantwell et al., 2018). Reform movements, even when sustained, are unlikely to deliver singular attention to one or more identified priority contributions. Movements themselves may also transform over time.

To show how reform movements show anticipated contributions from higher education, we consider four examples: (1) the Bologna Processes in Europe; (2) the student success movement in the United States; (2) Russia's global competitiveness policy; and (4) successive world-class university plans in China. Bologna is a multilateral regional process designed to coordinate and

harmonize university qualifications across the continent. The student success movement is an informally linked set of reform projects in the United States aimed at increasing student degree completion to improve individual outcomes and elevate national attainment. The reforms in Russia and China were initiated by the central government and intended to increase their respective nation's presence in the global knowledge economy by enhancing the research profile of selected universities. In neither case did the central government operate alone. In China, the connections of many nationals who studied abroad link China's research universities with global science. And in Russia international policy and policy advisors participated in the reform.

The chapter then reviews each of the examples, followed by a conceptual discussion on how analyzing the politics, policy and associated reform efforts in higher education helps to understand the contributions expected from higher education. As the examples and conceptual discussion show, expectations for the contributions of higher education are rarely fixed. Rather, reform movements reveal active expression, negotiation and evolution of multiple expectations of contributions circulating at once.

The Bologna Process

The Bologna Process helped to establish the European Higher Education Area (EHEA) and harmonize national systems across the region. The process was established by the 1999 Bologna Declaration (BD), signed by 29 European countries. The BD identified four pillars of reform: (1) establish cycle studies (first degree, master's, doctoral); (2) implement a credit system; (3) increase mobility in European higher education (students and staff); and (4) establish a framework of quality assurance (Campbell & van der Wende, 2000; Van Damme, 2000; van der Wende, 2001). These pillars, which became the basis of the EHEA, reflected a commitment to reform the structure and improve quality in the region. The EHEA, a centerpiece accomplishment of the Bologna reforms, was not a new idea in the late 1990s. The idea dated back to early discussions about the European community in the 1950s, and was championed by the corporations in the 1970s. However, it wasn't until the 1990s, when adjusting to the knowledge economy became a major priority for European governments, that the idea was able to take off (Kauppinen et al., 2017).

The BD was an ambitious extension of regional programs to enhance mobility launched in the mid-1980s (Neave, 2002) and immediately followed the Sorbonne Declaration of 1998, which established many of the BD goals. The EHEA was formally launched in 2010 and formalized when 47 ministers signed the Budapest–Vienna Declaration on the EHEA. Over the course of over 20 years, an ongoing reform process unfolded, marked by a series of ministerial meetings that culminated in a communiqué that outlined priorities,

made recommendations for national authorities, and expressed values and aspirations for higher education within the EHEA. The Bologna Process is notable for its longevity, geographical reach and topical breadth. It is perhaps the most ambitious international higher education reform ever undertaken. Currently, the Bologna Process includes 48 participating countries that work in consultation with the European Commission. Bologna Process participants include high-income countries in Western and Northern Europe, but also middle-income countries in Eastern Europe, including several former socialist states, and Turkey. Participating countries are heterogeneous in terms of culture, history, economy and political system. Between ministerial meetings, executive functions of the processes are implemented by the Bologna Follow-Up Group (BFUG) that was institutionalized during the ministerial meeting in Prague in 2001. These meetings allow for working groups to advance various aspects for the processes. BFUG meetings are venues for where the work of shaping the reform agenda takes place. Government representatives, firms, civil society groups, along with higher education representatives participate in the meetings.

Bologna reforms are widely adopted among European Union members and other regional states but also encountered challenges. The reform processes developed an internal, even inward-looking logic, that reflected the priorities of wealthy countries in Western Europe and the European Commission, which made implementation difficult for Central and Eastern European countries and the Balkans (Kwiek, 2004). Beyond a limited set of participations, concerns about preserving national autonomy and direct resistance to the reforms have long been features of the process (Heitmann, 2005; Kwiek, 2004; Neave, 2002; Teichler, 2004; Van Damme, 2001). The 2018 Paris communiqué acknowledged uneven implementation and observed that former socialist countries face difficulties fully implementing reforms. Acknowledgment is unlikely to have fully redressed the challenges, but points to an important aspect of the Bologna reforms. Over time, the processes proved flexible and adaptable. New objectives are folded into the processes, and new activities and goals are attached to existing objectives. The process allows for continuity of reform but also responsiveness to emerging developments and changing priorities. For example, the 2020 communiqué stressed the importance of academic freedom, a not too subtle response to a tide of political populism in the region and beyond.

Since its inception, the primary objectives of the Bologna Process are to make higher education work for the social, economic and political cohesion, well-being and competitiveness of the EHEA. Mechanisms for achieving these goals are enhancing intra-regional mobility and educational quality through a process of harmonization. Key elements include: academic mobility; establishing degree cycle-structure; the social dimensions of higher education;

promoting lifelong learning; developing transferable units of academic credit; strengthening quality assurance; and building a Europe of knowledge (see Table 11.1). These elements are politically leveraged tools that constitute a complex set of interlocking reforms to establish a region-wide system of transferable qualifications that promote the links between higher education and the labor market. By harmonizing degree structures and facilitating cross-border qualification, translatability and recognition, the Bologna reforms supported the political and social objectives of European integration, particularly on economic but also social and cultural grounds (Neave, 2002).

The Bologna reforms map rather neatly to common conceptions of the knowledge society, which became increasingly prominent in higher education policy during the 1990s and 2000s (World Bank, 2002), and which supported national and regional competition in higher education (Cantwell & Grimm, 2018). The knowledge society idea posits a strong association between skills and knowledge with economic productivity and innovation. Critics have described the processes as part of a wider neoliberal project that subjugates higher education to market logics (e.g., Levidow, 2002). Bologna reforms do introduce market-like elements into European higher education but are also intended to generate regional prosperity and enhanced well-being beyond the individual value proposition. Several ministerial communiqués appeal directly to the public good derived from higher education and include periodic attention to questions of inclusive access and education for refugee and immigrant communities.

The Sorbonne Declaration of 1998 was signed by the ministers of France, Germany, Italy and the United Kingdom. The number of participating countries, however, grew quickly. There were 29 signatories to the BD one year later. Members of the EHEA coordinated with the European Commission, and a set of consultative members such as UNESCO and the European University Association. The framework for reform and commitments are made by ministerial and organizational members of the EHEA, but implementation occurs within countries, with primary responsibility falling on individual institutions of higher education. The Bologna Process is regionally coordinated, but locally implemented. Coordination and national implementation occur via the Open Method of Coordination that relies on the diffusion of norms and principles over coercive mandates and legislation. This method allows for lose adoption and indirect responsiveness. The Open Method of Coordination creates room for interpretation and reprocessing through national or even institutional cultural and political priorities.

Mobility is a key plank of the Bologna project. In Bologna terms, mobility is primarily understood physically and geographically – the movement of people including students and academic staff. Students and staff circulate within the EHEA. As Powell and Finger (2013) put it, "The Bologna model follows the

Table 11.1   *Expansion and evolution of Bologna priorities*

Event (year)	Mobility	Cycle-structure	Social dimensions	Lifelong learning	Unit of credits	Quality assurance	Europe of knowledge
Sorbonne Declaration communiqué (1998)	Mobility for students and teachers	Establish common cycle			Use of credits		Build a Europe of knowledge
Bologna Declaration communiqué (1999)	Research mobility	Easily readable, comparable degrees			Credit system (ECTS)	Quality assurance cooperation	European dimensions in higher education
Prague communiqué (2001)	Social aspects of mobility	Fair recognition and joint degrees	Consider social dimensions	Lifelong learning for all	ECTS diploma supplement	Professional cooperation	Make EHEA attractive
Berlin communiqué (2003)	Grant and loan portability	Doctoral level 3rd cycle	Equal access to education	Lifelong learning policy alignment	Credit accumulation	Multilevel quality assurance	Higher education research links
Bergen communiqué (2005)	Visa attention	National Qualifications Framework (NQF)	Recommitment	Flexible learning paths		European Standards and Guidelines (ESG) adopted	Sustainable development
London communiqué (2007)	Attention to pension system	NQF by 2010	Commitment to national action plans	Improve employability	Coherent use	Quality Assurance Register (EQAR)	Strategy to improve the global dimension

Event (year)	Mobility	Cycle-structure	Social dimensions	Lifelong learning	Unit of credits	Quality assurance	Europe of knowledge
Leuven communiqué (2009)	20 percent mobility by 2020	NQF by 2012	Measure social dimension by 2020	Lifelong learning as public responsibility	Implementation	Quality as focus of EHEA	Global policy dialogue
Bucharest-Vienna Declaration (2010)						Formal establishment of EHEA	
Bucharest communiqué (2012)	Explore automatic recognition	Roadmap for countries without NQF	Widening access and completion	Entrepreneurial skills	Link to learning outcomes	EQAR approved accreditors to operate throughout Europe	Evaluate implementation
Yerevan communiqué (2015)	Implementation	Implementation				Adoption of EQAR guidelines	
Paris communiqué (2018)			Refugee access	Linking qualifications to employment requirements in public sector	Commitment to fully implement ECTS	Adoption of revised gridlines	Relevance of learning and teaching

motto 'the more mobility the better'. It stresses the goal to promote mobility of students, especially within the EHEA, to contribute to their individual development" (p. 280). Even with mobility – defined in various communiqués primarily as movement within the region (Powell & Finger, 2013) – singularly stressed as central to the Bologna Process and EHEA, mobility presents with distinct political and social meaning across the region. Analyzing policy documents and political speeches, Brooks (2021) finds divergent emphases based on national political culture and history. For example, German documents emphasize mobility as a means of achieving European integration and for forming European citizens, while in Denmark, where Euroscepticism is high on both the right and left of the political spectrum, policy documents do not promote mobility as a pathway to forming European identities. Polish documents give relative emphasis to mobility as a means of supporting jobs and building the national economy. In Ireland, where emigration has been a social challenge over a century, political documents approach out-mobility cautiously (Brooks, 2021). The theme of continuity and variation is a hallmark of the Bologna reforms. The proposals of higher education are partially standardized through a common lexicon of reform, but the syntax varies by country and over time, and national ministers remain key actors in shaping the regional agenda.

Student Success Reforms in the United States

In May of 2019, the Bill and Melinda Gates Foundation, one of the world's wealthiest charities, announced the formation of a commission to measure the value of higher education in the United States (Seltzer, 2019). The Commission, whose members include a cross section of high-profile researchers, university leaders, policy advocates, civil society and industry representatives, had the ambitious but narrow agenda of specifying "the economic returns of education after high school" in the United States (Postsecondary Value Commission, n.d.). When launching the Commission, the Gates Foundation acknowledged that higher education produces diverse forms of social value, including critical thinking and civic engagement, but formally excluded these returns from their analysis. Within a few months, the Commission's mandate expanded modestly to include some limited noneconomic individual benefits. An August 2016 statement authored by Commission leaders Sue Desmond-Hellmann, Mildred García and Michelle Asha Cooper, stated: "We seek to clearly identify and measure returns on postsecondary investments. This includes finding jobs and building careers with family-supporting wages, being able to repay student debt and save for the next generation, improving economic mobility, and boosting critical thinking skills and civic participation" (Desmond-Hellmann et al., 2019, paragraph 3).

The Commission initially offered few hints at knowledge creation or dissemination (beyond skills acquisitions), including innovation and research commercialization as a potential source of value. All emphasis is on the individual ROI. The final report, published in 2021, is an extensive and thoughtfully crafted document that extends beyond simple ROI calculations. But the primary emphasis remains on individual economic returns, with special emphasis on social mobility for low-income students.

Individual ROI definitions of value expected from higher education are a rather recent development. The Gates Commission, economic human capital concepts and the knowledge society approach are attached to broad reform efforts in higher education. The Gates Commission is tied to ongoing policy processes in the United States that seek to steer students and higher education institutions (HEIs) into economically useful fields of study while at the same time reducing the cost to deliver higher education and efficiently target student financing. Broadly, the current reform movement in the United States can be described as an effort to maximize student successes and value (Cantwell, 2018). The student success reform movement itself has been propelled by foundations including Gates (Haddad, 2021; Haddad & Reckhow, 2018). The US student success and value-reform offer essentially economic rationales for higher education, and are primarily, but not exclusively, concerned with individual returns. The Gates Commission is revealing because it is both connected to a wider reform project and, at least at its outset, showed a narrow understanding of the contributions expected from higher education. The Gates Foundation, an organization at the center of a wider movement of higher education reform, states clearly that the most important contribution higher education can make is to provide an economic return in the form of lifetime earnings premium net of the costs of participation to students.

The Obama administration established student success as the higher education priority for the US Department of Education. Student success built on themes of falling behind that have circulated in US higher education policy for decades. While participation rates in the United States are high, and US research universities perform well in global rankings, US degree attainment now lags behind a number of OECD countries. Anemic attainment is primarily the result of poor completion rates among students who start a degree. For that reason, Obama placed increasing completion – or attaining success for all students who enroll – as the primary goal for higher education reform efforts.

While student success was federally prioritized, the US Department of Education has little direct control over higher education policy. In fact, observers suggest the student success priority did not originate with the federal government but was rather adopted by the Department of Education from powerful foundations; most notably the Gates Foundation and Lumina Foundation. Both foundations had previously supported efforts to increase degree attainment

in the higher education sector and much of the language adopted by the US Department of Education reflected foundation discourses. The foundations funded an array of advocacy groups, policy analysts, think tanks, institutional initiatives and multi-institutional networks. They supported groups that aided the development of state-level polices, such as performance-based funding (Haddad, 2020). The reform movement has now developed independent momentum and has been adopted by state governments and institutions themselves, which seek to demonstrate how they are supporting student success and value. The student success movement is closely related to questions about the high price of participation in the United States and growing debt burdens but is somewhat separate from questions about free college, and student finance reform. The Gates Commission on measuring the ROI gives clarity about the overall objectives of the wide-ranging reform moment. In short, the movement is designed to secure an individual return on investment for both students, taxpayers and philanthropic contributors to the sector.

The clarity of purpose provided by the student success moment, however, may be short-lived. When the Postsecondary Value Commission was published in 2021, it was met with less fanfare than one might have expected in 2019. The muted reception was likely in part because the COVID-19 pandemic consumed much of everyone's attention. But it is also possible that political prioritization was moving on. The Biden administration quickly proved more open to using government spending to advance social programs like education than even his Democratic predecessors, and left-leaning higher education politics were consumed with talk of student debt relief and tuition fee college plans; meanwhile Republicans took a decidedly hostile stance to higher education altogether and showed little interest nationally in engaging in substantive policy discussions that would reveal expected contributions. Great power conflicts between the United States and China intensified during the Trump administration and increased tensions also carried into Biden's administration, bringing greater attention to research for national security and competitiveness as a higher education emphasis. The clarity of mission that solidified during the Obama administration was all but gone by the start of the Biden presidency.

Global Competitiveness of Russian Universities

As a part of the agenda for a new presidential cycle, in 2012 a presidential order established the goal to enhance the global competitiveness of Russian higher education. The aim was for the Russian Federation to contribute to the global research and education market. In particular, five Russian universities were targeted for entry into the top-100 of an international ranking by 2018 (and, then, by 2020). The initiative is dubbed Project 5-100. Further, universities were expected to become drivers of institutional changes in education

technologies and HEIs' governance, elevate the global role of Russian science and contribute to inbound mobility of high-skilled labor force.

The reform was designed as an excellence initiative. Since 2000, more than 20 countries have launched over 40 excellence-driven initiatives to develop a group of so-called world-class universities (Altbach & Salmi, 2011). Aims of the initiatives vary from country to country (Froumin & Lisyutkin, 2015). Some governments seek to leverage higher education to directly boost national economies through export education. Others seek indirect benefits from the spillovers of research and development. Even with varying goals, excellence initiatives promote a more or less similar research university model (Mohrman et al., 2008). Like the Russian plan, German, French and Chinese initiatives also seek to enhance the international standing of their respective research universities (Litao & Jinjing, 2010; Marginson, 2022).

Despite different formulation of specific goals, the common idea of excellence initiative policies is to bring institutional changes (in this case to build world-class universities) through support of agents (organizations and individual people) that propel change. Even as world-class initiatives expand the scope of agency for some actors within the higher education sector, it remains embedded in the institutional environment. Initiative outcomes are dependent in part on institutional embeddedness, despite official aims. From the beginning, Russia's Project 5-100 made explicit reference to excellence initiatives worldwide. Emphasis on international comparison and rankings is also evident in the establishment of international expert boards, which frequently discussed international rankings (Froumin & Lisyutkin, 2018). Although the initial aim of propelling universities into the ranks of the top-100 universities worldwide was not achieved by 2020, the policy has resulted in increased 'global' visibility of Russian higher education. The ambitious goal of the presidential order was adjusted during the first year of the project. Rather than aiming for entry into the overall rankings, policymakers pivoted to attainment in subject rankings in order to make the goal more feasible. In 2012, major international subject ratings included 15 Russian universities, by 2020 the number reached 51. A notable accomplishment. However, the accomplishment has provoked some skepticism because most appearances are in the QS ranking, which includes documented limitations related to potential conflicts between the consulting and ranking arms of QS (Chirikov, 2021).

Skepticism aside, since the program's inception, Russian contribution to the international scientific literature has increased. The number of publications in high-quality journals, produced by the participating universities, increased 10–20 times (Accounts Chamber, 2021), and the effect of participation in the project is evident statistically (Agasisti et al., 2020; Lovakov et al., 2021). The international collaboration in publications slightly increased as well. As Lovakov and colleagues (2021) show, in 5−100 universities the share of publi-

cations in collaboration with foreign authors increased from 33 percent in 2012 to 44 percent in 2016, while in universities from the control group the share of such publications was more or less stable. Although the ranking and bibliometric data have limitations in what they can tell us about contributions to the stock of human knowledge (see discussion in Marginson, 2022), these data do show the selected universities mobilized their activities and gained legitimacy for international engagement. The outcome of international engagement became more notable under the conditions of an authoritarian regime, foreign policy of fencing and very limited funding of science in general (Gohberg et al., 2019).

The reform presented governance challenges. Implementation of the Project 5-100 was formed by established practices in Russian public policy; namely the dominance of technocratic governance and conformity with the principles of new public management, which have shaped political techniques. There are more than 15 strategic planning documents at the federal level, such as, for example, "The Strategy of Scientific and Technological Development of Russia" and "The Strategy of Social and Economic Development of Russia" (Limonov & Batchaev, 2020). In higher education the government stimulated strategic planning and competition through state-initiated projects each 3–5 years before the Project 5-100. Since 2007, the establishment of ten Federal Universities has combined two mechanisms – additional funding for strategy development and mergers. Since 2009, 29 National Research Universities have gained new status and additional funding for their research strategies. Within these projects the additional funding for universities has been distributed on the basis of competition between the best universities' strategies (in the view of the Ministry and invited experts).

The group of supported universities was rather small, only 21, in comparison to the entire higher education sector that consists of about 700 state and private HEIs. The project's budget was only about 2–4 percent of all state-funding of higher education. Even so, in exchange for political and financial resources, universities accepted increased control and even micromanagement from the Ministry. Universities that participated in the competition for joining Project 5-100 were required to develop strategies and detailed road maps. Each university conformed in several ways by: (1) following straightforward evaluation frameworks from the Ministry (a system of indicators to drive to specific national goals); (2) consenting to government monitoring of progress across key performance indicator; (3) accepting restrictions limiting the use of additional funding to specific activities and submitting to increased fiscal oversight from the government (Froumin & Lisyutkin, 2018, pp. 250–252). The result is not only an increased administrative burden on operations, but university administrators also perceive higher control over their activities (Oleksiyenko, 2021). Increased control over leaders of elite universities has occurred in

parallel with the Project 5-100. In 2014, the transition to appointing rectors outside of traditional election procedures began among program participants. Geraschenko (2022) shows that the share of public universities that witnessed a procedure change is 27 percent, while within leading universities almost half (46 percent) have appointed rectors now. The model of world-class university that is promoted by the ranking system (see Hazelkorn, 2015), and by the Project 5-100 initially, was adjusted to the principles of Russian public administration. The realignment of the goals within the policy framework continues. Universities are increasingly expected to support the internal logics of national public administration rather than to elevate Russian standing in global science. A new similar initiative, Project 2020, launched in 2021 at the sunset of Project 5-100, does not feature global vision in its design.

Building World-Class Universities in China

China's recent higher education reforms are described as going from "catching up" to "going out," reflecting a shift of state attitude toward internationalization (Wang, 2014). In 1978, China's opening-up policy allowed the first exposure and the increasing awareness of internationalization for economic competitiveness globally. Before the founding of the People's Republic of China in 1949, higher education reforms were largely practiced from observing the American patterns; while after 1949, the newly ruling Chinese Communist Party (CCP) switched to learning from the former Soviet Union (Huang, 2015). As the Chinese economy grew and became more open, higher education policy shifted again. Huang described the early 1990s as "nationwide syllabus" for reorganizing the university solely on teaching utilitarian national needs, which separated any research activities from universities.

By the end of the 1990s, however, research was strongly emphasized in the university sector. Interest in building world-class research universities emerged during the mid-1990s as part of the state's ambition to further enhance China's international status (Wu, 2019). Prioritizing research as a central plank in China's catch-up strategy led to the establishment of the 211 Project in 1994 and the 985 Project in 1999 with intensive funding for Peking and Tsinghua. Later, seven other nationally renowned universities were targeted for funding, forming the C9, a Chinese counterpart for the Ivy League in the United States (Huang, 2015). In 2015, China introduced the "Double World-Class Project," aimed at building "first-class subjects" while continuing to promote world-class universities (Peters & Besley, 2018). This new initiative focuses on cultivating an innovation culture by advancing scientific research and creating university think tanks that strengthen socialist core values. The outcomes of China's recent higher reforms have been successful, at least in terms of rapidly expanding the research capabilities of Chinese universities (with seven

universities in the top-100 ARWU (Academic Ranking of World Universities) ranking in 2021).

While the Chinese national government exerts overwhelmingly powerful economic and political influence over local authorities and education institutions, global influences, particularly international standards and ranking systems, are also at play. At a national level, the reforms aim to strengthen China's position in the world through science and education, as well as to exercise higher education as soft power to enhance China's global competitiveness and cultural influence (Larbi & Fu, 2017; Wang, 2014; Yang & Welch, 2012). Converging toward Western world-class university standards is a nationally embedded strategy (Marginson, 2022). As such, Chinese institutions prioritize performance appraisal to climb the international ranking systems, recruit more international students for extra state revenue, and establish internationalization demonstration and joint-venture programs with Western universities (Larbi & Fu, 2017; Wang, 2014). Chinese efforts to establish world-class universities through policy reform cannot be reduced to Western mimicry, even though aspects of Western research universities are emulated. As with China's broader development plan, Chinese characteristics are woven through the university reform agenda.

The recent reforms have led Chinese universities to move from "isolation to the forefront" of internationalization within a short period (Zha et al., 2019). Despite this impressive status, there are parts left behind as the result of China's fast-paced higher reform. At the institutional level, humanities and social sciences are significantly under-supported compared to "hard" sciences (Yang, 2014; Marginson, 2017); institutional culture and tradition are compromised under the pressure to teach and publish in English (Larbi & Fu, 2017); the performance and functionality gap between elite universities (the 985 Project) and other institutions continues to expand (Huang, 2015). Individual faculty members are pressured for research output and become less interested in teaching activities and student competency development (Huang, 2015; Tian & Lu, 2017; Zha et al. 2019). While most research outputs are published in Mandarin, and this work is important to the development of knowledge and intellectual life in Chinese higher education, much of it is outside of the world-class registers (Marginson, 2022).

China's higher education reforms are driven by the central government, with some coordination by regional and municipal governments and implantation responsibilities by HEIs. Central planning for national prosperity, power and prestige characterizes the reform effort. Likewise, reform efforts are targeted to a rather limited number of institutions. Beijing's Tsinghua and Peking universities are at the very center of reform efforts, and while successive reform plans have boarded the geographic and institutional scope of investment and reform, the capital's twin academies remain paramount to the national

strategy. China's project emphasizes the state and the contributions higher education can make to enhancing national capabilities and global influence but should not be understood as only a project for state power. The policy has coincided with a large number of Chinese students studying abroad and with deepening connections between Chinese researchers and researchers aboard. International engagement and the opportunities to connect, learn and live abroad became part of the pact the CCP made with China's growing urban, middle-class population, which holds increasingly individual aspirations. In very recent times, however, Xi Jinping's rule has limited the scope of individualism and international engagement.

THE POLITICAL ECONOMY OF CONTRIBUTIONS

As evidenced by all four reform examples, structural conditions of national and regional political economies, local and national partisan interests, and actors inside higher education condition the way expected contributions of higher education are identified and expressed. To what extent are the expected contributions from higher education contingent upon the level, source and finance mechanisms used to direct resources to higher education? One might assume that governments which invest the most in higher education would also expect the most from the sector, but countries with the least capacity to invest also stand to benefit from higher education's contributions. Similarly, it is plausible that individual returns will be emphasized relatively more compared to collective benefits when countries rely on private sources to fund higher education, but it is just as likely that directionality works the other way. Societies that use private funds to support higher education when they prioritize private returns wish to impose market-like elements to higher education, or expect families to support social projects.

How much is invested and who invests, where investment is directed, how many participate and who participates are not independent variables that cause some specific relationship between higher education and the wider society. Higher education finance and participation both reflect and influence academic–society–state arrangements. The interrelation between political regimes and education funding is well discussed in the literature; however, higher education is usually assumed to have its own logic, and not related directly to the political regime and political partisan theories (see Garritzmann, 2016). Although political economists analyze the education policy as part of the broader literature on the welfare state, only a few studies show the relevance of the welfare regime framework for higher education. For example, Förster (2012) found empirical support that liberal welfare models foster market mechanisms and individual responsibility in higher education as well, relying more on tuition fees.

Simplifying things, left-wing parties are expected to favor higher public spending on everything, including the higher education sector, but this is not always the case. The dominance of right-wing or left-wing camps in the government may play the role in determining public expenditures in education but not in the same way for all education sectors. Right parties are expected to spend more on higher education when it redistributes tax money from the general public to the rich (Fernandez & Rogerson, 1995). Ansell (2010) provides a complex political description of higher education funding, taking into account the level of higher education expansion. He suggests the existence of a "trilemma." Governments may achieve at most two out of the following objectives: mass enrollment, full subsidization and a relatively low total public cost. Political partisanship and ideology determine the choice of the options. When higher education is elite, left parties may be opposed generally to an increase in public support for higher education, as it produces redistribution of public money to the rich. But in the condition of mass higher education, the left-wing government is expected to spend more on higher education to provide more equal access. By contrast, right-wing governments may favor spending more on higher education when the access is low. As Ansell (2010) argues, the conditional theory of partisanship explains that during higher education expansion the left-wing governments produced systems with strong reliance on private income, and right-wing governments tended to produce mass public systems. Given these documented dynamics, we cannot assume that political or economic conditions alone are determinative of the contributions expected from higher education. State policy shifts over time, sometimes dramatically, but higher education policy and system design may reflect the layers of history rather than only the preferences of the government in power. When higher education systems attain high levels of participation it becomes virtually impossible for centralized state governance, and central control is even difficult in many systems at any participation level (Cantwell et al., 2018).

National and regional political economy and partisan/ideological preferences are evidence in the examples considered from the United States, EHEA, China and Russia but in none are these considerations fixed or fully determinative. Even when reform processes are highly centralized, absolute control over goals and methods is elusive. And the decentralized examples in Europe and the United States show constant change and renegotiation that sometimes reflects changes in the political economy and ideological orientation and sometimes does not. Culture is also at play. Central governments exert stronger control in Russa and China and at least nominally establish higher education missions that prioritize state interests. But these reforms are also cultural policies. In Russia, for example, the culture of technocratic public policy and the culture of academic independence operate in parallel, and are sometimes in conflict. The balance has shifted over time, with the space of academic

engagement widened during early stages of the reform but narrowing later. In the United States, a clear mission consensus seems to be dissolving.

Contributions Are Framed in Cultural and Political Terms

In recent decades, policy actors around the world have placed heavy emphasis on the economic contributions of higher education, and especially related to labor market outcomes. Beyond formation for the traditional professions, the vocational links to higher education were few prior to the development of high participation systems in the twentieth century. Massification brought with it both increased attention to the link between higher education and work and budding unease about graduates taking subprofessional jobs (Trow, 1973). In all four examples, participation rates exceed 50 percent and higher education is an ordinary part of society. State bureaucrats assume the purpose of expanding education is to attain economic benefits in terms of economic growth, higher productivity of labor and satisfaction of individual expectations of financial prosperity (Carnoy et al., 2014). This idea is strongly fixed under the influence of human capital theory (Becker, 2009) and endogenous growth theory (Aghion & Howitt, 1992; Romer, 1990). Simplifying, the idea is that individual investment in skills adds value to labor productivity and, as a result, individuals benefit from returns through wages and the public benefits through economic development (including technological change). Although the skill bias technological change paradigm has faced major critics (e.g., Lauder et al., 2018), knowledge society conceptions justified the expansion of higher education with the crucial emphasis on hard science, ICT skills and entrepreneurism at universities. Higher education is needed, according to knowledge society thinking, for national prosperity as well as individual returns (Metcalfe & Fenwick, 2009; Välimaa & Hoffman, 2008).

The study of contributions of higher education involves not only technical questions about how to achieve and measure them. Prioritized contributions from higher education are often defined in cultural and political terms, as shown in each of the four examples. Marginson (2011; 2018) argued that the division between public and private goods is neither clear nor consistent. The nature of goods varies considerably, for example, when theorized from Anglo-American or Sinic philosophical traditions (Marginson & Yang, 2022). Political cultures differ in each of the examples considered, and neither process demanded the same of higher education as any of the other reforms we considered. The public and private benefits may be simultaneously produced, and processes can produce both positive and negative externalities. Conceptualizing the contributions society enjoys from higher education is complex. David Labaree (1997) asserts that the sort of contributions societies expect are contested on domestic cultural and political terms. Writing from

the American experience, Labaree argues that "the central problems with American education are not pedagogical or organizational or social or cultural in nature but are fundamentally political" (Labaree, 1997, p. 40). Reformers have variously sought to establish the primacy of one of three competing goals: (1) democratic equity; (2) social efficiency; and (3) social mobility. Even in a single national context, the contest over which contributions should be prioritized is ongoing and never fully resolved.

Labaree's typology is limited and cannot be generalized. The democratic equity goal idealizes a particular state–society formation; namely a liberal democracy in a limited, secular state. In the United States, Labaree's state–society formation implied by democratic equity is not fully realized, and many countries have entirely different state–society formations. In Russia and China the limited state assumption falls flat. In the EHEA, states are prime actors, if not singularly dominant. Further, Labaree conceives of the contributions to education as being entirely contained within nation-states. Globalized society makes this assumption infeasible to apply in the context of contemporary higher education.

Marginson's (2018) framework for mapping the contributions of higher education overcomes the limitations of Labaree's goals, but does not have as much guidance for tracing the political formation. Marginson's model operates on two axes, with individualized goods and collective goods along the vertical axis, and national goods and collective goods along the horizontal axis. The result is a four-quadrant model including: (1) individual national; (2) individual global; (3) collective national; and (4) collective global. Marginson's framework provides a typology for the contributions higher education offers but is agnostic about the specific goals for higher education. By taking Labaree's observation that the contributions of higher education are established politically, and revealed through reform, and Marginson's typology of goods resulting from education, reform examples show that individual and collective goods that are realized within nation states are specified culturally through fluid political processes. The Bologna example also points to regional expectations that are neither national nor global. The considered reform examples do not reveal much in the way of global expectations; reformers want to capture the benefits of higher education within specified political geographics. To put it another way, understanding how the question "What should society get from higher education?" is expressed in reform processes, which are inherently political and connect with state building (Pusser, 2018). Of course, higher education can and does produce goods that are not expressly expected from reform movements.

Smolentseva (this volume) builds a sociological framework for identifying contributions. Smolentseva's framework is a 3 x 3 matrix. The vertical axis features axiological dimensions, or social domains, and includes: (1) knowl-

edge and skills; (2) social and cultural norms; and (3) social values. The horizontal axis features praxeological dimensions, or processes and activities, and includes: (1) transmission; (2) transformation; and (3) creation. Smolentseva's framework provides a guide for formally theorizing contributions using sociological concepts that are potentially inclusive of economic theory but not limited to it. Contributions derived from the transmission of knowledge and skills, for example, could be understood as something similar to capital. However, the transformation of social and cultural norms via education, such as the diffusion of values about human rights or the need to protect the environment, is a sociological framing that could result in what Marginson identifies as global common goods, such as the mitigation of ecological disaster.

Long-standing economic research on public goods coupled with more expansive educational and socialization theorizing as described above opens the space for identifying preferred or expected contributions of higher education. The global trend to high participation, increased attention to research performance and the labor markets make claims of world-level social formation via higher education credible. Global tendencies, such as high participation, however, need not imply a singular world social process (Cantwell et al., 2018). Examples from this chapter show the social role of higher education remains embedded in specific political, economic and historical contexts, that while linked through globalization processes, maintain substantive and procedural separateness. Internal dynamics of reform processes are not fixed, and the mission of higher education, even when viewed from the standpoint of a single reform process within a single country or region, is ever shifting. Processes of reform afford observational data about how higher education is understood by important groups (state, academic, business, civil society, etc.) and what is expected of the sector by these groups. The actors, individual and group, will vary from country to country and over time. Fixed priorities cannot be assumed anywhere. By tracing reform processes, we can understand the specific ways by which expected contributions from higher education for society are defined and established, and how they change.

CONCLUDING THOUGHTS

The premise of this chapter is that the expected contributions from higher education as determined through social and political processes are not the same across time and context. While the premise itself is simple, it may open an alternative way to study the contributions of higher education. Much of the work on the topic has been either empirical and limited to quantifiable outcomes, or theoretical and abstract. This chapter proposes that inductive research involving description and analysis may help to show what contributions are identified through reform. The accumulation of evidence from

different contexts will enable higher education scholars to provide more complete explanations (Cantwell, 2020) about the expected contributions from higher education. The assessment of four cases, which are not assumed to be equivalent or directly comparable, suggests that inductive policy review may identify priorities. The approach also may reveal the actors involved in establishing priorities.

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12. The professoriate and public policy

Glen A. Jones

INTRODUCTION

Among the broad range of ways in which institutions of higher education contribute to the societies in which they function, surprisingly little attention has been given to the role of higher education, and in particular the work of the professoriate, in public policy. Scholars of higher education have focused on a wide range of topics related to public policy *for* higher education by exploring the primary relationships between institutions of higher education and the state associated with system-level governance (Goedegebuure, et al., 1994; Huisman, 2009). It is through these primary relationships that governments regulate, steer and, in the case of public higher education, fund institutions of higher learning. Public policy for higher education involves a considerable range of complex policy areas, including the coordination of public higher education systems, government support for institutions, student financial assistance, quality assessment and accountability (Austin & Jones, 2016), and, increasingly, research and innovation (Aarrevaara et al., 2021). These primary relationships are complex and multifaceted, with leaders of higher education institutions providing input to the policy process, either as individual actors or as members of interest associations that advocate on behalf of the sector to provide governments with policy advice and feedback (Austin & Jones, 2016).

However, in addition to the principal relationship between institutions of higher education and the government ministry or agency with responsibility for higher education policy, there are a plethora of other interactions between institutions of higher education and other government policy sectors that Sirluck (1977) termed "secondary relationships." In some cases, these relationships may be quite formal and institutionalized, such as the relationship that a university dean of medicine might play in policy discussions with the government ministry responsible for health care concerning issues of the professional standards of medical practitioners. In many situations, especially those involving the role of the professoriate in public policy, these relationships may be highly fluid, context-specific and sporadic; these relationships have received some attention by researchers within the broader scholarship

of public policy and public administration, for example, focusing on the role of expertise in the various stages of policy development and implementation (see Christensen & Holst, 2017; Flickenschild & Afonso, 2019; Maasen & Weingart, 2005).

The objective of this chapter is to discuss the contributions of institutions of higher education to public policy beyond the traditional emphasis on the higher education policy sector, to explore the range of interactions between the professoriate and government that extend into almost every sector of government policy activity. The chapter is exploratory in nature; there is no ambition to provide a definitive, detailed portrait of what is in reality a complex array of interactions within unique historical, cultural, social and political contexts. The central aim of the chapter is to frame and illuminate the important contributions that institutions of higher education and the professoriate make to governments, public policy and society, which have received relatively little attention in the scholarship of higher education.

The chapter begins by establishing a basic framework for analysis, focusing on the sectoral nature of public policy, the role of policy networks, the organizational structure of universities, academic work and the specialization of knowledge. The chapter then explores three types of interaction between the professoriate and government and discusses how these interactions contribute to public policy. The chapter concludes by highlighting both the major contributions and key challenges associated with these relationships.

SECTORS, POLICY NETWORKS AND UNIVERSITIES: A BASIC FRAMEWORK

In his cunningly simplistic and often-cited definition, Thomas Dye refers to public policy as "anything a government chooses to do or not to do" (1972, p. 2). Underscoring this broadest and frequently contested of definitions is the core notion of government authority and agency related to public policy, and the notion that public policy is intentional; it is a decision made by government that involves a choice in action or intentional inaction. Of course how we understand "government" is also highly contextual, and has come to include multinational government structures and confederations, associated, for example, with the European Union, and multi-level national government arrangements, such as in federal systems where there is some division of responsibility over public policy between national (federal) and regional (state, *Länder*, province or territory) governments. Some governments are totalitarian, while others are more democratic in orientation. Within each of these different arrangements, there are governments (international, national or local) that are making public policy through intentional decisions.

Given the increasingly complex and specialized nature of these decisions, governments frequently deal with public policy issues on a sectoral basis and delegate authority over policy areas to meso-level government structures and agencies. While there may be macro-level public policy, most policies emerge from government ministries or departments that have been assigned some level of authority over a somewhat defined policy area. A ministry or department of agriculture may be assigned responsibility for agricultural policy and govern a wide range of highly technical and specialized policy issues within the sector, policies that may have enormous implications for farmers, related industries, the protection of consumers and international trade. Policy sectors are both a reflection of bureaucratic organizational arrangements, with the advantages of divisions of responsibility, specialization and technical expertise, and a response to distinctive sectoral issues and interests (that policy issues in agriculture policy are distinctive from those of health care or education). While the existence of different policy sectors represents a mechanism for managing the broad and complex business of government through delegation and boundary-setting, it also creates enormous challenges for policy coordination across sectors (Peters, 2018).

Two additional conceptualizations are central to the basic analytical framework underscoring the discussion of public policy in this chapter. The first is the recognition that public policy is a complex process, and while there is a substantial body of scholarship within the field of public policy on this process, including a range of models and conceptual approaches, the most common and frequently used approach is to consider public policy as a cycle of activities involving multiple steps. The starting point is the identification of a problem, followed by agenda setting (is the problem important enough to be addressed by government), policy formation (developing a policy), policy legitimacy (approval of policy), policy implementation and, finally, policy evaluation (did the policy work to solve the problem). Each of the six stages in this cycle involves a highly complex series of processes, and there is a continuing scholarly debate on whether the model is too simplistic, rational and linear, but the notion of a multistage policy cycle is foundational to much of the scholarship in public policy and public administration (Hewlett & Ramesh, 1995).

The second important concept is the notion of the "policy network" or "policy community" as a way of understanding that policy seldom emerges in complete isolation within the closed doors of a government office, but emerges through a complex web of interactions involving governments, stakeholders and other interested parties. The concept of policy network has been taken up within a broad range of scholarship within public policy and governance, including research that is grounded in quite different conceptions of the state and the political environment (Padure & Jones, 2009). Within a pluralist paradigm, individual interests are furthered through the creation of interest groups

which advocate on behalf of the shared interests of their members. The policy network becomes a basic concept for recognizing that public policy emerges from a network of relationships involving the lead government agency with responsibility for the sector and a range of sector-focused stakeholder and interest groups. The policy network becomes a forum for the negotiation between, and mediation of, competing interests. Neo-pluralism assumes that not all interests are viewed as equal within the political process, reflecting the uneven distribution of socioeconomic power within society (for example, in housing policy the interests of the real estate industry may be viewed as more important than the interests articulated by poorly funded advocacy groups representing the homeless), and that government is a policy actor with its own sectoral interests. In both cases, however, the policy network becomes a conceptual tool for understanding the complex interactions between governments and interests within the policy process. In his discussion of policy communities, Pross (1986) argues that these communities include not only government and interest groups with the resources necessary to engage in sectoral policy discussions, but also what he terms the "attentive public," a collection of individuals and groups (including, for example, some academics) with the time and resources needed to closely monitor policy issues and occasionally contribute to policy conversations within the sector.

Neo-corporatism offers a stinging critique of the unfettered interest articulation associated with pluralism; under neo-corporatism interest articulation is highly structured, focusing on legitimized entities representing the interests of (usually) labour and industry. Like pluralism, however, policy networks become a conceptual tool for understanding the forum within which these legitimized, highly structured groups interact with government in the public policy process. In addition to its use in analyzing the policy environment in certain Western nations, neo-corporatism has been used to explore the highly structured approach to interest articulation in certain African countries (Noumi I Tchoula, 2020), or in China (Hsu, 2014; Hsu & Hasmath, 2013), where sectoral policy networks have emerged with interactions between lead sectoral government agencies and industry associations that are supported and legitimized by government. Recognizing that comparative/international analyses of public policy are challenging given the unique history, culture, political and policy environment of every nation, the concept of policy networks is increasingly used, within a wide range of conceptual frameworks, as a tool for looking inside the black box of complex interactions between governments, private and corporate interests, and recognizing that policy networks have become "one of, if not the, predominant mode of governance within modern societies" (Borzel, 1998, p. 255).

While the understanding of public policy underscoring this analysis is framed by the notion of policy sectors, policy cycles and policy networks,

our understanding of the higher education side of the relationship is guided by foundational scholarship on the organization of higher education, the emergence of the multiversity as an institutional form, and the increasing importance and valorization of research within higher education. Universities, like governments, are extremely complex organizations and it is widely recognized that their organizational arrangements and governance structures can vary dramatically by jurisdiction, and even by institution within jurisdictions. Among the many challenges associated with understanding universities and their relationships with society is their "structural ambiguity" (Pinheiro, 2011). The core research and teaching activities of the university take place at what Burton Clark (1983) referred to as the understructure of the organization, the basic academic unit, frequently defined in terms of academic discipline or professional program focus. Perhaps the most commonly understood example is the academic department, a collection of academic workers defined by a common discipline, such as chemistry, though even with this common disciplinary orientation, these understructure units operate within a broader academic system "powered by specialization and hence by diverging interests" (Clark, 2008, p. 399). Increasing knowledge leads to increasing specialization, and while two professors may be members of the same department of chemistry, their research and teaching activities may be quite different and defined by distinct sub-specializations within the broader discipline (Jones, 2013). The relationship between academic units within the university is generally understood to be loosely coupled, with quite modest levels of interdependence. As Clark noted, "Law does not need archaeology; English literature does not need physics" (1983, p. 41). While there are certainly organizational challenges associated with loosely coupled organizational arrangements there are also advantages, since local units can respond to new disciplinary knowledge in ways that would be impossible in a more centrally controlled or coordinated arrangement.

Clark Kerr coined the term "multiversity" to describe the loosely coupled organizational arrangement of the contemporary, comprehensive university. The multiversity "is not one community but several" and "[i]ts edges are fuzzy – it reaches out to alumni, legislators, farmers, businessmen, who are all related to one or more of these internal communities" (Kerr, 1982, pp. 18–19). Of course not all universities are multiversities; there are many universities that have more focused missions, less emphasis on research or more centralized administrative arrangements than implied by the term. However, scholars have observed that, at least for high participation systems of higher education, there has been a "qualitative increase in the social role, the dominance, of the comprehensive multi-purpose university in higher education" (Antonowicz et al., 2018, p. 105).

Drawing on these basic conceptualizations that have emerged from the scholarship of public policy and higher education, how might one frame an exploratory discussion of the contributions of higher education and the professoriate to public policy? Our framework for understanding the complexity of these relationships is clearly very different than the way in which we have generally understood the traditional relationships between universities and government. The study of higher education governance has primarily focused on the narrow intersection between universities and government focusing on higher education policy and the higher education sector policy community (Austin & Jones, 2016); it is an hourglass-shaped relationship in which governments and universities connect through a funneled interface between two highly complex institutional forms.

In framing the discussion of the contributions of higher education to public policy we must appreciate the breadth of the interface between governments, as highly complex institutions where most policy decisions are decentralized and take place within the context of meso-level sectoral policy networks, and universities, which are complex, loosely coupled organizations where highly specialized professors engage in teaching and research. In the broad context of public policy, this interface involves a complex web of interactions across the full breadth of both government and university activity, as the multitude of meso-level government units and policy networks intersect with university academic units and individual professors, the latter playing a range of roles that involve specialized expertise.

THE PROFESSORIATE AND PUBLIC POLICY

University faculty play a wide range of roles with the public policy process, and while many of these roles are indirect, such as the dissemination of knowledge through scholarly publication where findings may be taken up by others in the political process, the emphasis here is on the direct involvement or engagement of university professors in these complex processes. The following sections focus on three types or categories of roles: expert advisors and consultants to government, advisors and consultants to other members of public policy networks, and as members of the attentive public.

Advisors and Consultants to Government

Faced with the enormous challenge of developing public health policies in response to the COVID-19 pandemic, many governments created advisory panels composed of experts to review the rapidly increasing body of scientific evidence and offer advice on government policy. For example, the United Kingdom created the Scientific Advisory Group for Emergencies (SAGE)

(Mahase, 2020) and India created a Subject Expert Committee (SEC) to review vaccine applications being considered for emergency approval (Prasad, 2021). Many of the members of these advisory bodies (and frequently the majority) were university professors, or researchers holding university appointments.

The practice of governments seeking expert advice or employing consultants to assist in informing policy, especially in the policy formation, policy implementation and policy evaluation elements of the public policy process, is far from new, and university faculty frequently play this role in many political systems. The mechanisms used by government to seek expert advice clearly vary by jurisdiction, but they include, for example, expert panels and commissions where professors are appointed because of their specialized knowledge of a specific field, inviting individual faculty or research centers to provide expert advice or engage in consulting activities, or commissioning faculty to conduct evaluations of policy initiatives. The nature of this advice may be broad, such as a task force conducting a large-scale review of a policy area, or highly specific, such as technical advice.

The role of experts and expertise within public policy processes has received considerable attention within the literature of political science and public administration, and the phenomenon is far from new (for example, Diner, 1980). The European Commission commonly creates expert groups to provide policy advice in the development of legislation or implementation processes, and scholars have monitored the composition and leadership of these groups in order to explore whether there has been an increasing "scientisation" of these advisory mechanisms (Krick & Gornitzka, 2020). Christensen and Hesstvedt (2019) analyzed more than 1,500 Norwegian advisory bodies operating between 1972 and 2016 to explore the relative role of academics and interest groups in the composition of these bodies. They concluded that the ratio of academics appointed to these bodies compared to total membership has increased steadily over time, and in the early years of the twenty-first century increased dramatically. Flickenschild and Afonso (2019) compared the network structure of academic economic expertise associated with primary economic advisory bodies in the United States and Germany to illuminate how differences can influence the diffusion of ideas in economic policymaking. Core themes within these diverse bodies of scholarship are that there is an increasing real, perceived or ascribed role associated with expertise in public policy as a natural response to the broadening and increasingly specialized nature of policy, that expertise plays an important role in both informing policy, but also in legitimizing or at least adding credibility to the policy process, and that the expertise of university professors is commonly sought by government. While there are clearly differences by government and political system in how (or whether) expertise is utilized or consulted, the finding that

select university professors advise government on policy appears to be an almost universal conclusion.

It is also important to note that the involvement of university faculty as expert advisors or consultants takes place across the spectrum of policy activity. It can include advising on macro-level economic policies to the highest levels of government (Flickenschild & Afonso, 2019), but it more commonly involves the sharing of highly specialized expertise to advise on policy issues at the meso-level of government; within some systems, examples of academic researchers contributing their expertise directly through their participation in advisory bodies can be found in almost every policy sector (Christensen & Hesstvedt, 2019; Krick & Gornitzka, 2020).

Several studies have involved surveys of government officials in order to understand whether, and if so how, civil servants use academic expertise. Avey and Desch (2014) surveyed senior national security officials within the US government on their use of expertise from the field of international relations. Talbot and Talbot (2014) conducted a large survey of senior civil servants across the United Kingdom in order to understand the connections between government and academic experts. Both studies found that officials reported accessing research reports and journal articles as sources of information on policy matters, but that civil servants particularly valued academics as advisors and creators of new knowledge. Personal contact and interaction through formal or informal advisory roles were noted as quite important.

Little attention has been given to exploring these relationships from the perspective of university professors, but a somewhat dated study of faculty at the University of Toronto and their interactions with the provincial government of Ontario, Canada, illustrates both the breadth and frequency of this activity in one jurisdiction (Jones, 1993). Almost 17 percent of all full-time faculty respondents indicated that they had been asked for advice from a government official during the previous year. Requests for advice were more frequently reported by faculty in the social sciences (29 percent), health professions (21 percent), education (18 percent), and engineering and applied sciences (17 percent) and far less frequently reported by faculty in the humanities (4 percent) or fine and applied arts (0 percent). Slightly less than one-third of faculty who provided advice at the request of government did so through some form of consulting arrangement involving a fee, and more than a fourth provided a formal report, while the vast majority provided advice through meetings, messages or telephone conversations. Approximately 17 percent of faculty reported that they had been a member of a government task force or committee, and 7 percent indicated that they were members of such a body at the time they completed the questionnaire. In order to explore whether the University of Toronto findings were somehow distinctive given that it is a major research university, the same questionnaire was administered to

all faculty at Brock University, a medium-sized comprehensive university in the same province. The findings were remarkably similar. Approximately 16 percent of faculty indicated that they had been asked for advice from a government official during the previous year, and 16 percent reported that they had been a member of a provincial government task force or committee (Jones & Kreber, 1994).

Interviews with faculty in the University of Toronto study provided some sense of the unique role that these faculty played within the policy process. A key theme was the perceived neutrality and credibility of faculty expertise. One interviewee noted, "I know that they like to introduce me as Professor [So-and-so]. The position [of university professor] means that I am something more than simply an interested citizen or a party hack" (Jones, 1993, p. 475). Another stated:

> There is no doubt that they use my work. It filters into their reports and documents. It is like they are saying, "We know that this is a controversial point so we hired an objective person to look at it. We are doing what an expert says is the right thing to do." (p. 476)

One interviewee provided an example of this perceived credibility of faculty expertise in the policy process:

> Some of my consulting work is really a matter of evaluating the research work of the [government] people. All they really want at the end is a letter that [states] that they have used the right tests and that the data supports their conclusion. Of course the letter has to be written on University of Toronto letterhead because it will be used to support their decision. (Jones, 1993, p. 476)

These finding illuminate some key elements of the role of faculty as advisors and consultants to government. They are perceived as nonpartisan and at arm's length from the political sphere, and their academic position, title and public record of scholarship effectively certifies their expertise.

This phenomenon can be observed even in very different political systems. Meng (2017) notes that it is relatively common for governments (national or local) in China to engage university faculty as consultants to study and provide advice on specific policy issues. It is also increasingly common for universities to establish special units or think tanks that play a role in supporting government decision-making by providing specialized advice or conducting research explicitly directed at informing decision processes. Talbot and Talbot (2014), based on their survey of senior civil servants in the United Kingdom, noted that connections between government and academic experts were relatively common, and that civil servants had quite positive views of university faculty as advisors and knowledge providers.

It is important to note that these relationships are the product of strategic decisions on both sides, and imply elements of trust. Some governments may be wary of external expertise and advice, while in other contexts the selection of consultants and advisors is highly politicized. Faculty may prefer not to engage for a wide range of reasons, including a preference to remain at arm's length from the political process, or a fear that their advice or expertise will be used or misconstrued for political purposes. The necessary elements of trust may be impossible in political environments where faculty are dismissed or threatened for the publication of research that is critical of government policies (Balbachevsky & Albuquerque, 2021).

Populist and neo-nationalist governments commonly position universities and scholarly expertise as the "opposition." As Douglas notes, "We have entered an era in which neo-nationalists often attack universities as hubs of dissent, symbols of global elitism, and generators of biased research" (Douglas, 2021a, p. 22). There is, in some systems, a crisis of trust in academic research or a view that science and politics have become too closely intertwined (Krull & Brunotte, 2021). The Bolsonaro government in Brazil, and the Trump government in the United States, frequently positioned science and scholarly expertise as politically biased and essentially of no value (Balbachevsky & Albuquerque, 2021; Douglas, 2021b). However, even in these environments, meso-level policy units, perhaps especially those more distanced from political oversight or controversy, may selectively engage faculty as advisors or consultants.

Advisors and Consultants to Other Members of Policy Networks

The concept of policy networks begins with the assumption that nongovernment actors are increasingly and commonly engaged in the policy process within political systems. In some contexts this engagement can be quite direct and highly influential, for example Pross's (1986) notions of sub-governments and policy communities, or members of policy subsystems within an advocacy coalition framework (Weible & Sabatier, 2009). While these agents can be defined and understood in quite different ways within multiple literatures, the core notion is that there are organizations or agents that have an interest in policy within a particular sector, some of which, for example, may be acting out of a vested interest (industry organizations, unions) and others may be acting in the interest of policy change because of a sense of public good (organizations representing the homeless, advocating to address issues of child abuse or family violence). Some of these organizations have the resources needed to actively participate in the policy network (membership fees, government grants, philanthropy) as they attempt to inform or influence policy.

University professors frequently contribute to evidence-informed policy discussions by acting as advisors or consultants to these interest groups or other types of advocacy organizations in much the same way that they do for government. These nongovernment organizations may commission specialized academic research, or seek out expert advisors (Jones, 1993). They may contribute evidence or research findings in support of the advocacy initiatives of interest groups or stakeholder organizations (Weible & Sabatier, 2009). In other words, in addition to providing direct advice to government, faculty may be providing advice to other members of policy networks that are participating in the public policy process. They may contribute to or be members of think tanks and specialized advocacy organizations.

Meng (2017) notes the important roles that different types of research intermediary bodies play in linking faculty research with policy decision processes in China. These intermediary bodies frequently play a role in knowledge mobilization, sometimes translating academic research findings into forms that resonate within policy environments, or gleaning the importance of research for application.

Members of the Attentive Public

In addition to acting as advisors or consultants to governments or other groups or organizations that are members of policy networks, some faculty also play a role as members of what Pross (1986) refers to as the "attentive public" within policy communities or as members of policy subsystems within advocacy coalition frameworks (Jenkins-Smith et al., 2018; Weible & Sabatier, 2009). Given the nature of their work, faculty have the time and resources needed to monitor and directly participate in policy network processes. For some, monitoring and analyzing policy issues is a component of their scholarship, and in some fields of study there may be an almost symbiotic relationship between those who study policy and those who make it (Meisel, 1979). Academics will be keenly interested in the issues being considered within the meso-level policy network because their research focuses on these policy issues, and their analyses, assessments or evaluations of policy are disseminated through traditional scholarly publications. They may participate in media interviews on policy issues, write editorials or use other forms of knowledge mobilization to share their findings.

As members of this attentive public, however, they may also make more direct contributions to public policy processes by making submissions to Parliament (Talbot & Talbot, 2014), by responding to government requests for input on policy matters or by participating in public meetings (Weible & Sabatier, 2009). Studies of policy communities in quite different policy sectors commonly note the participation and contributions of individual professors

as members of the attentive public (Pross & McCorquodale, 1990; Skogstad, 1990).

While the participation of some professors will be relatively stable and continuous, reflecting their ongoing scholarship focusing on a particular policy sector, the participation of others may be far more fluid and periodic. The focus of their research may shift, or they may become aware of specific policy issues that intersect with their specific area or expertise.

One might argue that university professors play a distinctive role in the identification of policy problems given their capacity for sustained and independent research in specialized areas of scholarship. In their book *Climate Change in the 21st Century*, Cohen and Wadell (2009) provide a generalist overview of the evolution of scientific research on both the nature and implications of climate change going back to the early nineteenth century. The story of how initial scientific theories transitioned into complicated, multifaceted approaches to modeling the impact of climate change, multidisciplinary research programs, international research collaboration and the gradual recognition, in most circles, that climate change was a public policy problem requiring global cooperation is, not surprisingly, highly complex. What the story illustrates, however, is the important role that academic research played in the identification of the problem, of understanding the broader implications of the problem and in pointing towards possible solutions. Scientists around the world, in many fields, engaged in the public policy process to have the problem recognized, and to advocate for change.

Climate change is far from a unique example. In pursuing new knowledge, academic research uncovers new problems, from the environmental impact of new pesticides and chemicals, the existence and implications of systemic social and economic inequalities, or, most recently, the recognition that while a global pandemic may have begun as a public health issue, it quickly evolved into policy problems that impacted every policy sector (the economy, mental health, education, transportation). University faculty have played an important role in identifying policy problems both through their research, but also through their direct roles as members of the attentive public within policy communities, or as advisors and consultants. Civil servants may appreciate the special role that faculty play in synthesizing research findings, but also in framing and contextualizing problems (Talbot & Talbot, 2014), and in the perceived legitimacy and neutrality of professorial expertise within the political process in some countries.

Universities as Reservoirs of Policy Expertise

Universities are increasingly positioned as central institutions within national research and innovation systems. They play key roles in educating the highly

skilled human resources and critical citizens required by knowledge societies, and there is increasing recognition of their current and potential contributions to the creation and dissemination of new knowledge that is at the foundation of aspiring knowledge economies (Aarrevaara et al., 2021). Higher education scholarship has focused considerable attention on the relationships between government and higher education systems in many of the core areas of intersection associated with these roles, such as the ways in which institutions of higher education are regulated and funded by government, the analysis of policies dealing with issues of educational attainment and access, research funding, technology transfer and knowledge mobilization, and the implications of shifting government policies on academic work. There has been a quite natural inclination within this field of scholarship to focus attention on the relationships between government and universities in terms of the implications for higher education, to study and analyze the public policy and governance process that directly or indirectly impact the higher education system (Austin & Jones, 2016).

If we take a step further back from this narrow understanding of the relationships between governments and institutions of higher education, we begin to see a complex myriad of intersections between the broad range of policy sectors within government (and their related policy networks) and university professors who are contributing to knowledge in related areas. Elements of these intersections are allusive and involve the serpentine pathways between those who create and disseminate knowledge and those who acquire and use this knowledge within the policy process. Other points of intersection are far clearer and more direct. In the face of increasingly specialized and technical policy issues and challenges, university professors contribute expertise and specialized research capacities to the public policy process. In many jurisdictions they are frequently called upon to sit on advisory committees or expert panels. They may answer technical questions or share papers or references with a policy analyst looking for the latest research. They may be asked to undertake new research as a consultant, or be seconded to an advisory role within government. They may play similar roles within the plethora of organizations, intermediary bodies and agents that comprise the multitude of policy networks sweeping across the breadth of government sectors of policy activity, sharing expertise, conducting research and providing informed advice. They may directly and independently engage with the policy process as members of the attentive public by closely monitoring policy activity and intervening to submit policy briefs, or sharing research findings that might contribute to informed public policy processes. They may play a distinctive role in identifying policy problems, but their expertise may be valuable throughout the complex elements of the policy process.

My objective in this chapter has been to explore and illuminate some of the direct ways in which university professors contribute expertise to the public policy process. I have done so by constructing a broad framework focusing on the sectoral nature of public policy, the role of policy networks, the organizational structure of universities, academic work and the specialization of knowledge. I have drawn on selected literature to illuminate elements or examples of these activities, but this analysis is far more exploratory than comprehensive, an attempt to shed light on ways in which university professors contribute to the broader society by contributing their expertise to support informed, evidence-based public policy.

It appears clear the professors play a distinctive role within these processes. Their higher education appointments, titles and record of research and publication signal both expertise and perceived neutrality. They are scholars "who translate their reputation in the scientific communities into the authority of their counsel" (Maasen & Weingart, 2005, p. 6).

Their university positions may also provide them with both the professional independence and flexibility to engage in policy discussions that interest them, but also to disengage or fluidly interact as they see fit. One professor in one study noted:

> I am not a government person and that is my strength. I am free to walk out at any time— and I do sometimes when I get tired of it, of all the crap that goes along with this kind of thing. [The good thing about being a faculty member] is that I am free to give them as much strong advice as I can. They don't have to take it. I am lucky. Ivory tower universities are really wonderful. You can actually say really arrogant things and [government officials] have to sort of listen. They may not act on it, but I really love being here (the university) and not being there (government). (Jones, 1993, p. 475)

As the quotation suggests, it is important to recognize that public policy processes are complex and multifaceted, and decision-makers may consider but not act on advice, or may need to weigh conflicting evidence or informed perspectives. Based on her interviews with Chinese government officials, Meng (2017) notes that while research and advice is frequently requested from university faculty, this expertise is not always perceived to be useful and it may have little impact on final decisions. Communication can sometimes be a challenge, and Talbot and Talbot (2014) noted civil servant concerns with academic terminology; one survey respondent noted that "[There's] a disjuncture between the practical realities … and the world of academic discourse" (p. 17).

There are also elements of trust associated with these relationships. Permanent employment and academic freedom, where they exist, may provide a secure foundation for faculty engagement in the policy process, but there are still reputational risks. There are certainly political contexts where faculty

need to tread carefully, and where criticism of the existing order can have dramatic consequences. There are also environments where there has been a growing skepticism of the value of expertise, and where scientific knowledge is positioned as biased or ideologically politicized (Douglas, 2021a). There are clearly contextual factors that heavily influence the nature of these complex relationships.

At the same time, it is clear that institutions of higher education represent a reservoir of policy expertise that those within the policy process in many jurisdictions can and do turn to. Government officials benefit from access to expertise that is at least somewhat distanced from the political process, and these relationships can be quite positive and impactful (Talbot & Talbot, 2014). As policy matters become increasingly specialized and technical, the need for specialized knowledge and expertise within policy networks increases, and university faculty are uniquely positioned as potential advisors, consultants and policy researchers. Faculty may be pulled to engage in these activities out of a natural desire to see a problem that they have identified addressed by public policy, to contribute to good policy or to engage in conversations that involve the application of knowledge out of a desire to learn from that engagement (Jones, 1993; Olmos-Peñuela et al., 2015). They may also be increasingly pushed towards participation within environments where there is an increasing interest in knowledge transfer and social engagement (Jones et al., 2005) or in seeking evidence of the "demonstrable contribution that excellent research makes to society and the economy" (Economic and Social Research Council, 2021).

The fact that these activities are often dynamic, fluid and episodic also means that they are extremely difficult to map. While information on some relationships is quite public, such as appointments to senior government advisory bodies or expert panels (Flickenschild & Afonso, 2019; Krick & Gornitzka, 2020), other forms of interaction may run the gamut between formal technical reports to informal advice to government officials or advocacy groups, and some activities may be regarded as confidential or privileged by government or other stakeholders. Senior civil servants may be aware of the work of specific advisors or consultants, but be unaware of the range of interactions between professors and lower level officials within their own department or ministry. They will be largely unaware of the parallel interactions involving the dozens of other departments, ministries or agencies associated with the multiple sectors of government activity. The same is true for the university, where even department heads may be largely unaware of the level of engagement of their faculty as relatively autonomous professionals, let alone those in senior leadership positions who oversee the myriad of independent and frequently siloed academic faculties, departments, institutes and research centres associated with the modern multiversity. Most of these activities are not hidden or invis-

ible, but the complex web of interactions involving professors and the various officials and organizations within the range of policy networks and mechanisms that constitute government are almost impossible to catalogue or even discern. Differences in political systems, government structures, mechanisms for consultations, and traditions or practices related to expertise within policy processes between different jurisdictions simply add to the complexity. The need for additional research on these complex points of intersection and interconnection is obvious if we are to more fully understand these relationships.

What is clear, however, is that university professors in most if not all political systems contribute expertise and policy advice to government in a myriad of ways, activities that have been largely unsung and little studied within the scholarship of higher education. Universities are reservoirs of policy expertise within political systems, and the engagement of their faculty within policy processes represents an important contribution to society that has received surprisingly little attention.

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13. Cultural contributions of higher education

Jussi Välimaa, Terhi Nokkala and Ksenia Romanenko[1]

INTRODUCTION

The study of cultural contributions of higher education is important for a variety of reasons. The first one is quite evident. As far as we know there is no comprehensive study analysing the role of higher education and higher education institutions (HEIs) as cultural contributors in their respective societies or internationally. However, there are a number of studies focusing on separate cultural activities related to higher education (see below). The second reason is the increasingly dominant role economic perspective has reached in defining higher education and research during the last decades. HEIs have been seen mainly as economic entities and actors that should promote innovations, strengthen national economies and act as engines of regional development. Concerning students, higher education has been defined as an economic investment that should profit students as consumers with promising career prospects and high income (see Chapter 9 in this book).

While there is nothing wrong with defining HEIs also as economic actors, the problem with this myopic, neo-liberally inspired focus is the neglect of other important functions HEIs have internationally and in their respective societies. Especially neglected and overlooked aspects are the cultural roles played by higher education and HEIs. Therefore, this chapter aims to open a fresh perspective to higher education by analysing the variety of cultural contributions that higher education and HEIs have.

Our study is based on both an analysis of web pages of HEIs, analyses of cultural artefacts related to higher education and on critical reading of research literature.

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[1]   We would like to thank Esa Kannisto and Hanna Walden for contributing to this chapter.

We acknowledge that HEIs themselves are cultural entities, but in this study we do not pay attention to disciplinary cultures, organizational cultures, organizational identities or student cultures because we focus on cultural relationships between higher education and society (on cultural aspects see, e.g., Becher & Trowler, 2001; Silver, 2003; Stensaker, 2015; Trow, 1960; Välimaa, 1998; Välimaa & Ylijoki, 2008).

We will use the concept of higher education to refer to higher education as a social institution responsible for the search of truth (or research), educating and socializing new generations into societies, teaching and learning. The concept of HEI, often a university or a college, in turn, refers to organizations responsible for higher education activities (Välimaa, 2019).

We will begin our study with problematizing the concept of culture followed by the analysis of the web pages of HEIs describing the variety of their cultural dimensions and activities. We continue by analysing cultural contributions of HEIs to societies and to cultural industries, cinema, TV and literature. We conclude our study by discussing the intersections between culture, politics and universities.

ON CULTURE AND HIGHER EDUCATION

Culture is a difficult topic to study because it is both *a social phenomenon* shared by all, and *an intellectual device* aiming to understand and explain human behaviour. *As a social phenomenon* culture can be understood as something created by artists whether they are producing cultural artefacts in theatre, opera, classical music, ballet or in movies, rock and pop music, TV shows, street fashion and so forth. In a broader view, culture is a social phenomenon that is shared by all human beings. We live amongst cultural traditions and in cultural environments that have been developing over time resulting in values, norms, cultural imageries, beliefs and belief systems that, in turn, influence the ways people see and define themselves and their relationships with others (Geertz, 1973). Higher education is especially important in this regard because universities and other HEIs are cultural institutions that can be found in every organized society (Välimaa, 2019). Universities with their academic activities of research, teaching and studying are integral parts of societies' cultural heritage and everyday experience through the cultural artefacts they produce: scholarship and innovations, academic and popular publications, degrees, symbols and academic ceremonies. Furthermore, a common-sense understanding of culture often refers to buildings dedicated to cultivating cultural artefacts in art museums, art exhibitions, theatres, music halls, operas and ballet halls, or in cinemas, online platforms, libraries, bookstores and so forth. Higher education has important roles to play in these regards as well.

However*, as an intellectual device* the concept of culture has its own tradition starting with the Latin concept *cultura* (cultivation of different things) and more precisely *agricultura*, agriculture. Over time culture has been used as an intellectual device to describe, explain and understand different ways of life and shared understandings of values, norms, beliefs and habits shared by (more precisely defined) groups of people – especially in the humanist tradition of Western science (Toulmin, 1992). According to Clifford Geertz (1973), culture consists of a 'network of meanings'. Following this tradition Tierney and Rhoads (1993, p. 17) stated that culture consists of 'webs of significance where people simultaneously create and exist within culture'. We are not only born in cultures, but we also interpret and have potential to change our cultures (see also Harré, 1983).

We use the concept of cultural artefacts following the definition of Bartlett (2005) who defines them as 'objects, symbols, narratives, or images inscribed by the collective attribution of meaning. Examples of cultural artefacts include the Cinderella story, the crucifix adopted by many Catholic faithful, the image of the rainbow, or labels like "gifted and talented" or "slow reader" in classrooms' (Bartlett, 2005, p. 3). In university contexts, these include, for example, the widely adopted and universally known graduation caps, which have also been modified to reflect specific identities (Syeed, 2021). Similarly, cultural artefacts include the gowns donned by the members of the old British universities such as Oxford and Cambridge (Baker, 1986); adopted in formal occasions such as doctoral defence ceremonies or graduation ceremonies also in many universities around the world. In the Finnish context, such cultural artefacts include the doctoral hats and swords worn in the university conferment ceremonies (Cowan, 2003); or the nearly ubiquitous colourful student association overalls (Vuorikoski, 2020). These symbols and rituals also contribute to the creation of particular cultural imagery and aesthetic subcultures outside the university (Bateman, 2020).

In this study we will focus on cultural artefacts produced in, around or about higher education in different cultural media because higher education has been both an object in cultural artefacts, a producer of cultural artefacts and promoter of local, national and global cultures and cultural imaginaries.

COMMON CHARACTERISTICS OF THE CULTURAL CONTRIBUTIONS OF HIGHER EDUCATION INSTITUTIONS

To gain a comprehensive picture and understanding about the different kinds of cultural dimensions and activities in universities, we looked at the websites of 120 universities located in capital cities of 77 countries or autonomous regions from all continents. The universities are listed in Appendix 1. The data

collection was exploratory and not aimed at producing countable instances of different kinds of cultural institutions and activities. The aim was to capture a large variation of different kinds of cultural formations.

The Source Data Used

We used the English websites of the universities, and, failing that, Google Translate was made use of to understand the content. Occasionally the Wikipedia descriptions of the universities were searched to identify cultural institutions or activities in case the university did not have an English language website. If the university websites were not very informative, Google searches such as 'University name AND museum' or 'University name AND culture' were used. The cultural activities of the student organizations were also included, using searches 'University name AND student organization'. Occasionally Google Maps searches were used to identify cultural institutions on university campuses. Some of the searched items were predetermined: for example, we chose to look for libraries and museums, as well as associations engaged with cultural activities such as music or drama. Other activities were discovered based on generic searches.

Both the existence of different activities and their numbers are dependent on what each university chooses to highlight on their website, among which there is great variation. The English language websites are typically more limited in terms of content than national language websites. Some universities choose to give a specific number to the libraries or museums they host, while others merely mention hosting 'many' or 'several' such institutions. In the absence of such figures, we have chosen to operationalize all those expressions with the number 2. Due to the challenges of data collection, the prevalence of different kinds of activities should be treated as highly cursory. While the large number of certain cultural institutions in some cases may be relatively close to reality, such as the very large number of libraries, it is likely that the numbers of some other form of cultural institutions or activities – say those with less than ten occurrences – are significantly underestimated in our data.

Analysis of the Data

We analysed the data in order to see how common each of the activities were in an international perspective and created the following three broad categories of cultural contributions: (1) HEIs maintaining cultural infrastructure; (2) HEIs supporting external cultural activities and outreach; (3) HEIs producing culture through internal cultural groups (Table 13.1).

The first category covers a variety of historical and modern buildings and institutions that may hold significance for cultural heritage: historical

buildings, churches or botanical gardens; and places of cultural activity, such as cultural centres, libraries and bookstores. The cultural dimensions in this category may be tangible, such as buildings or gardens, but also intangible, such as knowledge about the past generations. This category was the most numerous of the three, and libraries alone make up almost two-thirds of the typical formations in this category.

The second category comprises number of cultural activities, which cater for the larger society around universities: various exhibitions, festivals or concerts, as well as partnerships with museums not maintained by the university itself. This category also describes activities that are part of cultural industry such as radio, TV and record labels.

In contrast with the first two categories, the third category caters primarily for the community at the university. It pertains to the different cultural activities that the university staff and especially students engage in; and may be organized by the university or the (independent) student union. These include a large variety of music, theatre and dance groups; debate societies or literature clubs. It is, however, difficult to know whether a given club or group primarily caters for an internal or external audience, and therefore there may be some overlap between categories two and three. Even though overlaps between categories are a disturbing matter in an academic study, in real life, however, these overlaps are not a problem because many of the cultural contributions of HEIs do overlap each other.

While the challenges of the data collection caused mainly by the incommensurability of university websites result in imprecise numbers of cultural contributions, the specific number of a given cultural formation is not important to our argument. The aim of this search was to map the variation of different activities rather than calculate them precisely. What is important is that all HEIs host some cultural infrastructure or institutions, and engage in some cultural activities regardless of whether they are located in the Global North (Europe, North America) or Global South (Kenya, Lesotho, Colombia); or in any specific continent or country. Our data comprises universities primarily located in capital cities of the countries, but anecdotal evidence suggests that universities in peripheral areas have a similar, or even stronger, role in fostering national and regional cultures. All HEIs take the responsibility for many cultural activities either by supporting both local communities and national cultures or by maintaining cultural institutions that promote cultural activities, which are offered both for academic and general audiences.

Table 13.1   *Cultural activities of world universities (n=120)*

Category of cultural institutions	Number of activities mentioned
1. HEIs maintaining cultural infrastructure	**1129**
Libraries	720
Museums and galleries	146
Religious places, churches and groups	73
Archives, collections and documentation centres	55
Centres of arts and sciences, cultures, medieval studies, international centres, language centres, observatories	42
Historical campus/historical buildings	40
Bookstores, bazaars and cafes	37
Botanical and historical gardens	9
Concert halls, ballrooms and dancehalls	7
2. HEIs supporting external cultural activities and outreach	**395**
Culture, art, music, theatre events, exhibitions, competitions, festivals, public forums, open stages	124
Museum partners	102
Symphony/philharmonic orchestra, concerts	66
Magazines, newspapers, press, radio, TV, record labels	58
Summer schools, master classes, workshops and projects in music/art/literature)	45
3. HEIs producing culture through internal cultural groups	**1016**
Music/dance/folk/choir groups, dance studios	373
Student organizations, union and clubs	222
Culture clubs/communities/workshop	196
Opera/drama/ballet, theatre, magic, circus group	176
Film group/cinema, photography society	25
Literature, poetry group	7
Food organization/group	6
Painting and cartoons groups, drawing hall/drawing group	6
Debate, philosophy, history, archaeology clubs	5

Source: Authors.

Analysing Common Characteristics and the Variety of Cultural Contributions

After having illustrated above cultural contributions of HEIs, we continue with a qualitative, a more nuanced analysis on the variation and contents of cultural contributions of higher education. We begin by reflecting on the influence of HEIs on local, regional and national cultures.

Supporting infrastructure: university museums, libraries, buildings and gardens

Academic research has paid attention to the role HEIs have in the conservation of national cultural heritage with the help of university museums and art galleries (Willumson, 2000; Young, 2000), libraries and bookstores, or botanical gardens (Byers, 1999; Corner, 2005), which can act as specific bridges between the university, the city and the community as places of communication and transfer of knowledge. Programmes of social interaction, recreation, research and ecology may be inherent in botanical gardens that may contribute both to education and to improving the quality of life.

University libraries may have many functions in addition to their traditional academic one. Dowding (2014) analyses the importance of the library of the University of Kazakhstan to the national culture through digitized information about the Kazakhstan cultural heritage. That can have a significant impact on creating sustainable methods for preserving cultural heritage on a national scale. A library created by Metropolitan State University and city community has hosted many partnership projects between the university and the city, educating citizens about voting and elections, financial and computer literacy, teaching children to read independently, etc. (see Rolloff, 2013).

University museums, libraries and gardens may play a dual role in a society. They can be oriented inwards in preserving the memory of the university and maintaining university archives that focus on the university's history. University of Cambridge Museums illustrate this function, found in most universities.

Also, universities' traditional buildings may be culturally and historically significant monuments representing continuity and different cultural traditions layered over time in built environments (Coulson et al., 2015; Edwards, 2014), playing an important role in regional and national traditions, and cultural imaginaries. The museums maintained by universities, like the Viking Ship Museum within the University of Oslo (2022), showcase how universities may significantly contribute to the national culture. Traditional old universities like Oxford, Cambridge, Tübingen and Heidelberg, but also newer ones like the 160-year-old University of Jyväskylä in Finland have become tourist sites because of their architectural and historical importance. University

buildings and campuses may also have an economic contribution, in the case where a university provides accommodation services for tourists on campus (Connell, 1996). The universities of Oxford and Cambridge in the UK, the campus of Universidad Nacional Autónoma de México (UNAM) in Mexico City, and traditional American college campuses illustrate the influence these university environments have in national and global imaginaries and how they are continuously utilized in cultural industries, especially in films.

A typical feature of the old European universities is their location in the middle of cities. This is especially the case with medieval universities in Southern Europe. It has led to the close relationship of university professors and students with the inhabitants of their cities, thus shaping both universities and cities socially and culturally (Välimaa, 2019). Universities being social institutions in cities have also had political and economic impact on the life and development of cities and their regions. This multiple interaction itself is one of the cultural consequences of HEIs.

Students supporting urban cultures

According to Chatterton (2000), students have a role in shaping cultural and entertainment spaces in urban centres. The concentration of students in certain areas of cities supports the livelihood of many local cultural enterprises and events. Students as a mini-community are a significant part of the population in many large cities, which influences popular culture, has an impact on the city centres and helps to create special cultural spaces.

However, students are not a unified group but characterized by difference (Klemenčič, 2014) and, therefore, as consumers they have different ways of contributing to culture. Closed elite clubs, ethnic cafes, street art, as well as local monuments, all can be signs of different student communities contributing to urban culture.

Higher education institutions advancing and producing cultural activities

Organizing scientific festivals and events also belongs to cultural contributions of HEIs. Jensen and Buckley's (2014) analysis of the Cambridge Science Festival showed that the key motivation for citizens visiting the festival was the opportunity to get involved in science in an inspiring way. Participants emphasized the interactivity of the science festival, opportunities for social interaction and learning, as well as access to researchers as a unique combination that is not available in other circumstances. The contribution of a university to a city's culture helps to pay attention to issues such as environmental sustainability, health and cultural heritage development (Goddard & Vallance, 2013). Bridge conferences, in turn, show how mathematics, science and art can be combined in a popular and academic way (Fenyvesi, 2016). European

Researchers' Night, in turn, showcases how university research actually becomes a cultural event and contribution (see, e.g., Mazzitelli et al., 2019; Roche et al., 2017). It is something that is both a European-wide phenomenon and a local event. In 2019, the event was organized in 433 cities in 27 countries across Europe and beyond.

These kind of popular activities help to spread knowledge about scientific reasoning and contribute to a more scientific culture among people (Jensen & Buckley, 2014). The COVID-19 pandemic has shown that scientific knowledge is the best medicine against deadly diseases.

In some cases, universities' cultural activities go beyond the boundaries of the university and become a recognized event or format. Long-running TV shows, such as the British *University Challenge* and the American radio and TV show *College Bowl*, are famous examples of this interaction with the general public from their heyday in the 1950s–1960s. According to Hartley:

> [A]udiences persistently liked know-it-alls, whether highbrow, as featured on *University Challenge* or *Mastermind*, or the other sort, on shows such as *Double Your Money* or *Who Wants to Be a Millionaire*? It may even be said that this light-hearted entertainment softened up the general public for the 'knowledge economy' by showing it as a competitive advantage. (Hartley, 2005, p. 102)

In Russia, since the Soviet times there has been a popular humorous competition called 'KVN', an abbreviation that stands for the 'Club of the Funny and Inventive People'. Here, teams of university students perform their sketches, often musical ones, and give funny answers to questions of a jury. There are several leagues from a level of university department to a level of the national TV show (Semenenko, 2018). Another example is 'Total dictation', a mass educational campaign in Russia and abroad, where thousands of participants write dictations according to an original text of a contemporary Russian-speaking author every year. That was born as an initiative of the student association at the Department of Humanities in Novosibirsk State University (2022), but no longer is organized by the university.

This category also refers to the research of cultural traditions and artefacts and the education of students to work in cultural industries by training actors, directors and dramatists in drama studios, painters and sculptors in art academies, musicians in music academies and other culture professionals. Students and graduates as consumers of cultural industries also belong to this category. However, both of these latter categories are far too big to analyse them in any reliable and comparable way. It should suffice to say that the training dimension of higher education gives a very important support for all cultural industries and activities even though it is very difficult to measure precisely

the numbers of trained cultural industry producers or students with cultural aspirations.

Higher Education Contributing to Cultural Industries

The different dimensions of the cultural industry need to be analysed separately since it is the most numerous, most visible and most popular of all cultural contributions of higher education, given its international media coverage.

University in cultural imageries: cinema, TV and literature

Analysing the representations of colleges and universities in popular culture has in itself become a topic in curriculum in HEIs. For example, Steinhardt School of Culture, Education, and Human Development in New York University hosted a special course on 'Higher Education and the Engaged Imagination: Representations of Colleges and Universities'. The main question of the syllabus was 'How do we know what we know about higher education?' This important question illustrates the fact that cultural imageries of higher education not only reflect on but also shape popular understandings of universities, colleges, professors and students.

For this reason, we should reflect on what kind of representations of and on higher education can be found in literature, cinema and TV. We suggest that four main aspects of utilizing higher education in storytelling either in cinema or in literature can be identified: (a) college-life movies and campus novels; (b) university/college is used as a context or a canvas in the story; (c) stories focusing on personal growth of students; (d) the relationship of universities/colleges with society. Cultural artefacts and cultural imageries related to higher education have been utilized in a variety of ways in cultural industries. We are conscious that in most cases storytelling utilizes more than one aspect. We provide some typical examples on each of the aspects in order to illustrate how higher education has contributed to cultural industries.

College-life movies and campus novels

According to Umphlett (1984) college-life movies are a popular genre that started as early as in 1915 with the film *The College Widow* and continued with Harold Loyd's *The Freshmen* (in 1925) and many others over the decades. This genre focuses on student life in (American) colleges, a period of life that is important for the students' socialization into American society. This genre was continued by the comedy *Animal House* (1978), which took a critical look at the process of socialization by focusing on troublemaking fraternity members who challenged the authority of the dean of the fictional Faber College. Furthermore, colleges have also been depicted as spaces of friend-

ships, common living, common projects and development like in the sitcom *Community* (2009–2015) or in the films like *The Social Network* (2010).

Life in college or university can also be presented as a sybaritic experience of mindless parties and sexual freedom like in *National Lampoon's Van Wilder* (2002) and its sequels, or *EuroTrip* (2004). In this kind of film, colleges and universities provide a suitable context in which young people can fight against authorities or try to find a meaning in their life.

The genre of campus novel, or academic novel, emerged in the US during the 1950s. A typical feature of this genre is that main action takes place in and around the campus of a university or college. The influence of campus novels can affect the formation of students' attitudes towards universities and the educational process. Quite often, these texts had a positive effect of motivating students to study and improve their academic performance, as well as introducing potential applicants to student life.

University/college as a context or a canvas in the story

Some of the early examples of utilizing cultural imageries of higher education can be identified in the 1930s with films like *Horse Feathers* (1932) by the Marx brothers taking place and making fun in the fictional Huxley College. Another example is *Bringing Up Baby* (1938), an American screwball comedy with Cary Grant playing Professor David Huxley. Both these films and many others such as *Absent Minded Professor* (1961) and its later version *Nutty Professor* (1996), draw from the cultural stereotype of professors as men who are brilliant in science, yet absent-minded and unpractical when it comes to understanding 'real life' or the opposite sex.

Universities have a central role in books like *Small World: An Academic Romance* by David Lodge (1984) which was the last book of his Campus Trilogy and *Brideshead Revisited* by Evelyn Waugh (1945) which also was developed in a TV serial by Granada Television in 1981 and a film by Julian Jarrold in 2008 (Scott, 2004). John Williams' *Stoner* (1965) tells the story of psychological crises at university, changing social norms, the destruction of the former hierarchies and problems of university professors. J.M. Coetzee's *Disgrace* (1999) shows a university professor who is fired after having an affair with his student. In all these stories the dynamics of academic life in universities help to describe crises of men in their relationships with colleagues, friends and the opposite sex.

The University of Oxford is the context for detective drama TV series *Endeavour* (2012–), based on a series of novels written by Colin Dexter, a senior assistant secretary at Oxford University. This TV series utilizes the beautiful campus scenery and describes the conflicts between the university and the city. The university context helps focusing on fundamental problems

of society – issues of gender, maturation and development, social justice, (academic) rivalry and generational conflicts.

Another aspect of the cultural contribution of higher education is a shared visual culture of old elite universities with their graduation ceremonies (including university robes and tossing academic caps into the air), antique environment and other cultural artefacts. These cultural artefacts attached to elite universities have influenced the aesthetics of dark and light academia subcultures (see e.g. Dark Academia, 2022) created and consumed in popular culture.

Personal growth of students

Stories about students and professors, in turn, quite often focus on finding one's way in life or students' intellectual and mental growth. Examples of this genre include *Good Will Hunting* (1997), a story of a talented but poor student of mathematics, or *Mona Lisa Smile* (2003) describing students' mental change, set in a 1950s American single sex liberal arts college. The novel *Marriage Plot* (2011) by Jeffrey Eugenides develops the idea of studies influencing individual worldview and values. The novel's three main characters take literature, biology and theology as their majors in university and build their life trajectories guided by their chosen disciplines. Self-formation during university studies is also one of the main themes of Donna Tartt's *The Secret History* (1992).

The relationship of universities/colleges with society

Using higher education as a context, the stories can reflect on the issues of social justice, protests and revolutions that illustrate the ideas of higher education and student life as a transforming, revolutionary and nonconforming experience (see Scott, 2004). These issues have been addressed in films like *Zabriskie Point* (1970) by Michelangelo Antonioni, *The Dreamers* (2003) by Bernardo Bertolucci or *Something in the Air* (2012) by Olivier Assayas. The romantic comedy *Legally Blonde* (2001) raises questions about social classes and women's position at an elite American university.

The plot of the sitcom *The Big Bang Theory* (2007–2019) focuses on the prejudices surrounding the academic world (McIntosh, 2014), making the audience think about how they commensurate with the real world. One of the main characters explained his educational choice by the fact that the University of Cambridge looked like Hogwarts, the magical school from the Harry Potter novels by J.K. Rowling which shows how fiction may utilize existing cultural artefacts and the power of cultural imageries in the cultural industry.

The Big Bang Theory, as well as the novel *Possession* by Antonia Byatt (1990) speak of the joy of scientific exploration. The novel (2003) and film *The Da Vinci Code* (2006) by Dan Brown utilize a popular image of university

professors as skilful problem-solvers in socially significant cases. The Indiana Jones movies introduce a professor of archaeology who is not afraid of good adventures and practical challenges. The expertise of the university coupled with criticism of its closeness and comicality can be found in the novels *Making History* by Stephen Fry (1996) and *The Rebel Angels* (The Cornish Trilogy, 1981–1988) by Robertson Davies. Herman Hesse's intellectual novel *The Glass Bead Game* (1943) portrays academic world in a metaphorical way.

University symbols and rituals, initiation traditions, the atmosphere of old libraries and the value of some 'secret' knowledge have provided rich material for constructing imaginary universities in a number of stories. Among them Philip Pullman's trilogy His Dark Materials (1995–2000) and TV series (2019), Deborah Harkness's All Souls Trilogy (2011) and TV series (2018), and, of course, the Harry Potter books by J.K. Rowling (1997–2007) utilizing cultural artefacts of Oxbridge and Eton. These stories have the notion of mystical knowledge related to educational establishments that has the capacity to shake the foundations of society.

Why have universities and colleges been such an interesting and even inspiring environment for a great number of stories in and on and around higher education? From the perspective of dramatic setting, higher education offers a context for reflecting on intellectual and mental growth and change of young people preparing for adulthood and socializing into society. It also offers an environment where different people (young students vs. old scholars or professors) and different interests (making a career, defending one's truth) and genders, may easily be represented as being in conflict with each other. University life is also a context where it is natural to have important and interesting conversations on theoretical and personal challenges. They also are places and social spaces where new things can be invented, explored and developed. From a dramatic perspective it is tempting to challenge the public image of 'pure academics' – as rational and ethically behaving intellectuals – by showing that academics are driven by the same motives and desires as 'common people'.

INTERSECTIONS OF CULTURE, POLITICS AND UNIVERSITIES

Indeed, higher education has the potential to reproduce or change social structures and cultures of a society (see Bourdieu, 1988). Looking at the cultural contributions of universities it is important to look at the tangents of culture and other sectors of expression, such as politics or science. Cultural activities of universities have influenced for example wider political events. In the nineteenth century, in many European countries the research and teaching into 'national' disciplines such as history, folkloristics, linguistics, literature and

archaeology were important in vocalizing the national linguistic and cultural specificity, influenced by European Romanticism (Bolin, 2012) and the general political activism characterizing much of the century. This national-romantic discovery by academics of a mythical past and distinct character of a nation gave rise to calls for national awakening and political self-determination; but was also subject to political pressures to arrive at acceptable or correct interpretation about the past (Bolin, 2012, p. 37).

The process of blurring the boundary between the universities' cultural contributions and their political manifestations can be illustrated by the case of the nineteenth-century cultural research done by the Imperial Alexander University, since 1917 known as the University of Helsinki and until 1908 the only university in Finland. The research by the historians, philosophers, linguists and archaeologists into the culture, history and language of the Finnish people and its distinctiveness from the prior and contemporary ruling powers, Sweden and Russia, supported the national cultural and political development – or as nationalist historians called it, 'national awakening' – of Finland in the nineteenth century. This new national identity was a picked up and enhanced by the cultural traditions of the university students; such as the students' annual spring picnic. In 1848 the song *'Vårt Land'* ('Our Land'), written by the Imperial Alexander University's Latin teacher, national poet Johan Ludvig Runeberg, and composed by its music teacher Fredrick Pacius, was first performed in public at the picnic on 13 May. It was later to become the national anthem of independent Finland. At the same event, the university's professor of history, Fredrik Cygnaeus, gave a speech titled 'Finland's name', which gave voice to a national-romantic notion of Finland and Finnishness. This cultural awakening led to a political movement called Fennomans, which, in turn, supported the development of Finland as a political entity (Klinge, 1983; Lahtinen, 2008; Välimaa, 2019). Similar features can be seen in the nineteenth-century national awakening in countries like Norway (Langholm, 1995), Estonia (Gross, 2002) and Latvia (Bolin, 2012). In the latter two, national sentiment found an outlet in a national singing festival, modelled after German traditions and established in Estonia in 1869 by the alumni of the Valga Teacher Training seminar.[2]

However, especially in terms of the periods of 'national awakening' in the peripheries of empires, it is challenging to distinguish between the direct political influence of universities or their academics or students, and the influence that particularly the cultural activities of the said groups have had

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[2] cf. http://www.estonica.org/en/History/1850-1914_National_awakening/ National_awakening/ and personal communication with Professor Martin Ehala, University of Tartu.

on political events. For example, in nineteenth-century Norway, the academics largely formed the governing elite (Myhre, 2008), and the academic research on national disciplines and topics contributes to the cultural understanding of national specificity (Langholm, 1995), similar to the Finnish case described above.

Cultural research, artefacts and events have often offered an outlet for political sentiments, making it difficult to distinguish between culture and politics. Language as the embodiment of national specificity in multilingual empires/ colonial countries, where the language of the rulers was different from the language of the ruled, has especially been a field in which the cultural and the political are intertwined (Saarinen, 2020, pp. 12–13). For example, the ethnolinguistic nationalism in the fringe states of the Russian- or German-speaking empires (Kamusella, 2016) in the nineteenth century, including Finland (Saarinen, 2020), or the linguistic battles of the successor states of the Serbian-dominated Yugoslavia in the late twentieth century (cf. Busch & Kelly-Holmes, 2004, p. 10) offer examples of how the academic linguistic research contributed to political mobilization. Cultural artefacts, such as the famous murals by artists such as Diego Rivera, David Alfaro Siqueiros and Juan O'Gorman at the UNAM depicting historical and contemporary political themes, may also represent universities' political temporal opinions.

In turbulent political times, university students were often at the forefront calling for political reforms. This is evident in the political activism of Oxford and Cambridge students during the English Civil War, the student radicalism in Europe's Crazy Year 1848 (Boren, 2019) and in the latest examples of student democracy protests in, for example, Hong Kong and Thailand in recent years (Partaken, 2019; Sripokangkul et al., 2019). In the infamous 1960s student protests, which swept the world from Mexico (Gutmann, 2002) to France and Germany to Greece (Kornetis, 2013), student cultural activities often acted as outlets for political sentiments, sometimes putting the conservative university and its more radical students at odds. For example, Suominen (1997) reports that the student radicalism in Western Germany ignited into full flame following the decision of the Rector of the Free University of Berlin to forbid the open meeting organized by the student union with critical author Erich Kuby in the spring of 1965 (Suominen, 1997, pp. 68–69). In Finland one of the milestones of student radicalism was a musical premiered in 1966 at the Helsinki University Student Theatre which depicted the Finnish right-wing nationalism of the 1930s; a topic which had been controversial and largely ignored in the post-war years (Suominen, 1997, p. 169). Similarly, in the Soviet Union, from the 1960s there were unofficial associations of authors and singers of student songs – also known as touristic, bard or author songs. This was not a political movement, but because of its non-state status and negative

attention from the KGB's youth department, these associations became centres of 'quiet' political resistance.

Later examples include the student song festival Gaudeamus in Vilnius in 1988, where the forbidden flags of the three Baltic states, Lithuania, Latvia and Estonia, were displayed and a choir of thousands of singers protected them from being taken down by Soviet officials (Smidchens, 2014, p. 160). In the late 1990s in the former Yugoslavia, higher education played a significant role in the political mobilization of students, who were active agents in the fall of Slobodan Milošević's government after nearly a decade of protests in Serbia in 2000. For example, the student newspaper *MonopolList*, established in 1997 at the Faculty of Economics, University of Belgrade, had a role in mobilizing students in resistance to the regime.[3]

CONCLUSIONS

Universities are dangerous places for those in power, especially in those countries that do not tolerate opposing political opinions and during the times of oppression. The potential is based on the fact that HEIs gather together young students and equip them with intellectual capacities to take a critical look at existing social realities. This may empower them to organize political and/ or cultural activities. This is how culture and politics may be, and have been, interconnected with each other over history. The potential of universities to change societies is one of the dimensions of HEIs no matter whether it happens through culture or politics, or their combination, as often is the case with social changes.

In addition to intersections of culture, politics and higher education we have aimed to show that the cultural contributions of higher education are extensive and numerous even though we have managed to touch only the surface of this manifold and complex sociocultural phenomenon with the help of our cases. What is clear, however, is that cultural contributions of higher education are a global phenomenon. Universities and higher education as social institutions are promoting local, regional and national cultures through interactions in university spaces such as university campuses and buildings, especially libraries, and supporting cultural activities taking place through concerts, art exhibitions, theatre performances and so forth. Universities also have important roles in maintaining cultural traditions through research and the infrastructure of museums, libraries, botanical gardens and through their activities. The fact that

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[3]　See, for example, https://www.ekof.bg.ac.rs/publications/journals/monopollist/ ?lang=en, and personal communication with Dr Milica Popovic, Central European University, cf. Prosic-Dvornic (1998).

high quality research needs excellent information technology infrastructure also helps to support cultural projects that are based on digital technologies and organizational support of the HEIs.

However, it is quite difficult to make a distinction between community outreach or third mission activities and cultural contributions of HEIs (Baum, 2000; Buys & Bursnall, 2007). The same applies on the numerous studies of extracurricular activities as part of the student experience (McNeal, 1995). The distinction between these activities is, however, more an academic problem of definitions than a real problem for actors promoting cultural contributions in their social contexts. We would like to emphasize that without paying attention to cultural contributions of higher education we easily lose sight of the most important channels of influence through which HEIs can bring value for citizens without trying to benefit them as consumers. In this regard, cultural contributions of higher education belong to the main public good activities offered by HEIs.

We have also touched upon the use of cultural artefacts related to universities, colleges, professors and students. Whether these cultural artefacts are truthful or not is an irrelevant question for our chapter. Their existence is a matter of fact; and for this reason we have aimed to describe the variety of cultural artefacts and how they been utilized in novels and films, and popular culture, and by cultural industries. When saying this we do know that artistic conventions have their own traditions and aesthetic rules that prize having an impact on their audience more than being truthful to the realities of higher education. As Groucho Marx, playing Professor Quincy Adam Wagstaff – the Principal of Huxley College – put it: 'Your proposition may be good, but let's have one thing understood, whatever it is, I'm against it!'

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APPENDIX 13-A

Table 13.A1   List of all universities included in the website study (see Table 13.1)

Country	City	University
Albania	Tirana	Albanian University
Algeria	Skikda	University of 20th August 1955
Angola	Luanda	Catholic University of Angola
Armenia	Yerevan	American University of Armenia
	Yerevan	State University
Australia	Canberra	Australian National University
Austria	Wien	Universität Wien
Azerbaijan	Baku	Azerbaijan University
Bahrain	Sakheer	University of Bahrain
Belarus	Minsk	Belarusian State University
Belgium	Brussels	Vrije Universiteit Brussel
Bosnia	Sarajevo	University of Sarajevo
Bulgaria	Sofia	Sofia University
Canada	Ottawa	Ottawa University
China	Peking	Peking University
	Peking	Tsinghua University
	Peking	Film Academy
	Peking	Peking Institute of Technology
	Peking	Central Conservatory of Music
	Peking	Communication University of China
	Peking	Peking Jiatong University
	Wuhan	Wuhan University
Colombia	Bogotá	Universidad Nacional de Columbia
Croatia	Zagreb	University of Zagreb
Cuba	Havanna	University of Havana
Cyprus	Nikosia	University of Cyprus
	Nikosia	European University of Cyprus
Egypt	Cairo	Cairo University
Estonia	Tallinn	Tallinn University
	Tartu	University of Tartu
Ethiopia	Addis Ababa	Addis Ababa University
Finland	Helsinki	University of Helsinki

Country	City	University
France	Paris	Paris-Sorbonne University
Gambia	Sere Kunda	The University of the Gambia
Germany	Berlin	Freie Universität Berlin
	Berlin	Humboldt-Universität zu Berlin
Ghana	Accra	University of Ghana
Gibraltar	Gibraltar	University of Gibraltar
Greece	Athens	The National and Kapodistrian University of Athens (NKUA)
Greenland	Nuussuaq	University of Greenland
Guatemala	Guatemala	Universidad del Valle de Guatemala (UVG)
Holland	Amsterdam	University of Amsterdam
Hong Kong	Hong Kong	The University of Hong Kong
Hungary	Budapest	Eötvös Loránd University
Iceland	Reykjavik	Reykjavik University
Indonesia	Jawa Barat	Universitas Indonesia
India	Delhi	University of Delhi
Iran	Tehran	University of Tehran
Iraq	Baghdad	University of Baghdad
Ireland	Dublin	University College Dublin
Israel	Jerusalem	The Hebrew University of Jerusalem
Italy	Rome	Sapienza University of Rome
Jamaica	Kingston	The University of the West Indies (4 campus areas)
	Trinidad & Tobago: St Augustine	The University of the West Indies
	Barbados: Cave Hill	The University of the West Indies
Japan	Tokyo	The University of Tokyo
Jordan	Amman	The University of Jordan
Kenya	Nairobi	University of Nairobi
Kiribati	Tarawa	University of the South Pacific
Latvia	Riga	University of Latvia
Lebanon	Beirut	Lebanese University
Lesotho	Maseru	National University of Lesotho
Liechtenstein	Vaduz	University of Liechtenstein
Lithuania	Vilnius	Mykolas Romeris University
Luxembourg	Luxembourg	University of Luxembourg
Malaysia	Kuala Lumpur	University of Malaya
Malta	Msida	University of Malta
Mexico	Mexico City	Universidad Nacional Autónoma de México

Country	City	University
Monaco	Monaco	International University of Monaco
Montenegro	Podgorica	University of Montenegro
Morocco	Ifrane	Al Akhawayn University
Nepal	Kathmandu	Kathmandu University
Nigeria	Abuja	The University of Abuja
Oman	Muscat	Sultan Qaboos University
Pakistan	Islamabad	Comsats University
Peru	Lima	National University of San Marcos
Philippines	Manila	University of the Philippines Manila
Poland	Warsaw	University of Warsaw
Portugal	Lisbon	University of Lisbon
Russia	Moscow	Lomonosov Moscow State University
	Moscow	Bauman Moscow State Technical University
	Moscow	Moscow State Conservatory
	Moscow	Russian University of Economics
	Moscow	Moscow Pedagogical State University
	Novosibirsk	Novosibirsk State University
Spain	Madrid	Complutense University of Madrid
Sweden	Stockholm	Stockholm University
	Stockholm	Karolinska Institutet
	Stockholm	Royal College of Music
	Stockholm	KTH Royal Institute of Technology
	Stockholm	Stockholm School of Economics
	Stockholm	Royal Institute of Art
	Linköping	Linköping University
Thailand	Bangkok	Bangkok University
Turkey	Ankara	Ankara University
Ukraine	Kiev/Kyiv	National University of Kyiv-Mohula Academy
	Kiev/Kyiv	Taras Shevchenko National University of Kyiv
United Arab Emirates	Abu Dhabi	United Arab Emirates University
	Dubai	American University in the Emirates
United Kingdom	London	University of London
	London	University of Westminister
	London	Queen Mary University of London
	London	Brunel University London
	London	Royal Holloway University of London

Country	City	University
United Kingdom	London	University of East London
	Durham	Durham University
USA	Washington D.C.	The University of the District of Columbia
	Washington D.C.	American University
	Washington D.C.	The Catholic University of America
	Washington D.C.	The George Washington University
	Washington D.C.	Georgetown University
	Washington D.C.	Howard University
	Washington D.C.	The Institute of World Politics
	Washington D.C.	Marymount University
	Washington D.C.	Pontifical John Paul II Institute
	Washington D.C.	Trinity University
	Hoboken, New Jersey	Stevens Institute of Technology
	Athens, Georgia	University of Georgia
Vietnam	Ho Chi Minh City	Vietnam National University
Zimbabwe	Masvingo	Great Zimbabwe University

14. Higher education and regional elite formation in Russia

Aleksei Egorov and Sergey Malinovskiy

INTRODUCTION

Massification of higher education in the late twentieth century contributed to the transformations in the social structure of society and affected the formation of political elites. As higher education has become a social norm for better-off social groups (Cantwell et al., 2018), the new cohorts of political elites found themselves more educated than the population on average. Political leadership is far from representative of the population in terms of educational background (Aberbach et al., 1981). In developed nations, all recent cohorts of political elites have attended university (Zarifa & Davies, 2018). In Denmark, Belgium and France, between 75 and 90 per cent of parliament members have the equivalent of college or graduate degree (Bovens & Wille, 2017). The professionalization of the political sphere, the emergence of full-time, highly specialized politicians allow to observe the academization of the political elite and diploma democracies (Bovens & Wille, 2017).

Massification of higher education system may have changed significantly the roles of different types of universities in elite class formation (Williams & Filippakou, 2009). However, as the elite institutions maintain their elite status (Cantwell et al., 2018) they continue to train political elites, and are vastly over-represented in legislative bodies worldwide (Best & Cotta, 2000). Oxbridge produces more than half of judicial, parliament, government elites in the UK (Poverty Commission, UK, 2014). In France, the pathway to top positions in politics is strongly linked to the Grandes *Ecoles* (Hartmann, 2006). Law and economics majors at Tokyo University, Hitotsubashi University, Kyoto University and Waseda University are crucial for entering the Japanese administrative bureaucracy (Zang, 2004). The same majors at the University of Oslo and the Norwegian School of Economics pave the way to the Norwegian elite (Mangset, 2017). The political science faculty of Ankara University has traditionally been the principal educational institution for the training of Turkish bureaucrats (Sayarı & Bilgin, 2018).

While the educational background of political elites in general has been widely studied, some questions have been left on the periphery. First, social sciences focus mostly on the political elite at the centres of power, with regional elites receiving little attention. They, however, comprise larger numbers than central elites, and can later climb into central positions. Second, the analysis of political elites usually does not take into account the transformations of the higher education system – stratification of the sector, the differences between elite and mass segments, changes in the dominant fields of studies – and how these might intersect with elite formation.

This chapter aims at addressing the above limitations. It focuses on the Russian regional political legislative elites. We analyse changes in their educational background and connect those changes to transformations in the higher education systems and larger society.

THE RUSSIAN CONTEXT

The Russian Federation includes 85 constituent units, including republics, *oblast* and others, as well as three cities with special status, including Moscow and St Petersburg. The regions vary from 44,000 people in Nenets AO in the north to 13 million in Moscow. They are also diverse economically. Each has a regional parliament which is elected for five years. According to the 2010 decree, the size of regional parliaments should be 15–110 deputies, depending on the number of voters in the region. The approximately 4,000 members of these parliaments comprise the group of regional legislative elite, the focus of our empirical study. Regional parliaments are politically weak and de facto subordinate to the administrative authorities (Bystrova et al., 2020), but still matter at the regional level.

In the Soviet time, political elite formation had a distinctive model. The political elite was recruited from the wider population. Belonging to the political elite meant geographical mobility as the party and the state required (Kryshtanovskaya, 1995). The top elite appointments and positions, *nomenklatura*, resulted from internal recruitment (Semenova, 2012). Formal and informal rules maintained the stability and internal rotation within the elite structure. The career structure was hierarchical, with steady predictable career movement and no unexpected rises. During perestroika in the late Soviet period the system was disrupted: political control ceased to be concentrated in the hands of the Communist Party and moved towards executive powers, while elite recruitment was supplemented by elections. By the early post-Soviet time the old Soviet *nomenklatura* was divided into the political elite, which held positions and political power, and the economic elite, which owned and controlled capitals (Kryshtanovskaya, 1995). While the early post-Soviet elite

largely originated from the Soviet elite, the later generations were formed differently (Bystrova et al., 2019).

The current political system can be characterized as 'pervasive centralisation' (Yushkov et al., 2017). Elite co-optation has become the subject of electoral engineering (Turchenko, 2020). Entry into the political elite depends on the highest executive authority (governor) in the region (Golosov, 2017) and is shaped by clientelism (Gilyov, 2017). Two groups have been increasingly strong: *siloviki* (people with military background) and business persons. There has been a notable influx of former KGB and military staff into positions of power, although this is sometimes overestimated (Rivera and Rivera, 2014). The proportion of business people in the federal political elite, including top managers of private and public companies, is significantly higher than both the share of this category in the population, and the share of other professional groups in the elite. In the federal parliament, it exceeds the equivalent proportion in Europe (Gaman-Golutvina, 2014). Duka (2019) argues that recruitment of political elites from top economic/business positions is an indicator of plutocracy.

The above trends are apparent at the regional level. Duka (2019) notes that between 2015 and 2019, the share of business people and managers among regional parliament deputies rose in ten regions selected for closer analysis. People with top business and manager positions, as a second job alongside that of deputy, comprised up to 63 per cent.

The incorporation of business people into political power is mostly facilitated by the legal framework. Only in two Russian regions – St Petersburg and Chechen Republic – are regional deputies required to be full-time with no other employment. In all other regions the decision is left with the deputy, or there is a restriction on the number of full-time deputies (Duka, 2019). Keeping their business roles, powerful economic actors seek to secure their economic positions with publicity and political influence, fostering the concentration of political and economic capitals. Regional elites are self-reproducing: up to 90 per cent are recruited from regional business and administrative elite groups (Bystrova et al., 2020).

In this environment the population is generally discouraged from participation in politics: issues are taken out of political discussion and made a matter of organizational-economic arrangements. The proportion of the working and middle classes in Russia's regional political elite is gradually declining. Arguably, there is a trend to the formation of new regional hereditary nobilities, accumulating and converting economic, political and symbolic capital, and thereby strengthening family positions across generations (Bystrova et al., 2020).

With the pool of regional elite recruitment shrinking since Soviet times, the representativeness of the regional legislative elites – which social, economic

and political interests they represent – has decreased. This in turn might affect the legitimacy of these elites (Bystrova et al., 2020; Duka, 2019). The low level of regional turnover is linked to the dominant party regime at both federal and regional levels. During the last four rounds of regional assembly elections, the United Russia party has overwhelmingly dominated (Ross, 2018).

The Role of Higher Education in Political Elite Formation in Russia

What is the role of higher education in the formation of these elites? Higher education has never been a formal prerequisite for an elite position in the regional or federal legislature in Russia – everyone has the right to be elected. However, legal requirements exist for the civil service: at least a specialist or master's degree is required for top civil service positions. Some other positions require at least a bachelor degree (Federal Law on State Civil Service, 2004).

Overall, the educational level of both Soviet and contemporary political elites is higher than the average of the population, though the data are limited, especially at regional level.

In the late Soviet period, up to 70 per cent of the elite had higher education, with the majority having degrees in engineering and only 25 per cent in humanities. In the post-Soviet period, at the federal level, almost all Russian parliamentarians and cabinet ministers between 1991 and 2011 had at least one university degree (Semenova, 2012).

Among regional deputies in eight regions in 2012, 524 out of 606 (86 per cent) had higher education: 43 per cent had engineering education, 16 per cent economics and finance and 10 per cent military education as the first degree (Bystrova et al., 2017). The data vary by generation with the older tending to have engineering education, as in the Soviet time, while economics and finances are more prominent in the younger cohorts (Kolesnik, 2019). Analysis of over a thousand city council elections between 2014 and 2018 showed that self-nominee candidates formally affiliated with the ruling party had higher chances regardless of educational level, while for those who were not, higher education was found to be significant along with the previous experience in the position (Tkacheva & Turchenko, 2022).

Among the top federal civil servants, the majority graduated from Moscow and St Petersburg higher education institutions, with three institutions particularly important: Moscow and St Petersburg state universities, and MGIMO University (Moscow State Institute of International Relations), where 18 per cent studied (Tev, 2015). A study of six regions found that the regional political elite tend to graduate from the comprehensive or engineering institutions located in the regions, not in Moscow and St Petersburg (Kolesnik, 2019). Hence the three higher education institutions that lead in federal elite formation do not play a dominant role among regional politicians (Kolesnik, 2019).

One institution is prominent for the regional elite, but mostly in relation to regional administration, rather than the education of future deputies. This is the Russian Academy of National Economy and Public Administration, which has dozens of branches around the country (Kolesnik, 2019). It was established on the basis of the Higher Communist Party School which trained and re-trained Soviet elites.

Previous research highlights the actual changes in the elite composition, but is not conclusive about the role of higher education. The next section will discuss our own empirical analysis of Russian regional political elites and their educational backgrounds.

AN EMPIRICAL ANALYSIS OF THE RUSSIAN REGIONAL POLITICAL ELITE

Data Collection

Our focus is on politicians who obtained their first elite position on average 5–8 years ago, when the main features of the current recruitment model had already been established.

We formed a data set that includes different background characteristics of individuals occupying positions in legislative assemblies in all Russian regions. The data was collected manually using official biographies of individuals available on the websites of regional parliaments and governmental organizations. All data available in official biographies were converted into 194 indicators for each individual in the sample. These indicators can be grouped into four categories: (1) basic information; (2) educational background; (3) career path (all previous jobs); and (4) other characteristics, such as political party membership, marital status and so on. The data were collected during September–November 2017 and represent the situation as of September 1, 2017. The total number of individuals in the sample is 3,737.

Basic Characteristics of the Regional Elite

The age of regional elite members in the sample varies from 23 to 89 years with a mean value of 52 years. The most numerous age cohorts are 44–55 (32 per cent) and 55–66 years old (34 per cent). The youngest cohorts are 23–33 (4 per cent) and 33–44 years (19 per cent). One in ten (11 per cent) is over 66 years old. The average time individuals from the sample are in office is 6.3 years. Women are significantly under-represented in regional legislative bodies. However, the share of females is growing: while in the cohort born in 1927–1940 it is less than 10 per cent, in the youngest cohort born in 1981–1990 it reaches almost 25 per cent.

Regional migration is an important aspect of elite formation. About half the current elites achieved their elite positions outside their home town or village. However, the share of those who took their first elite position in their home regions is growing and for relatively young elite members exceeds 50 per cent. Perhaps older elite members have more professional options over the longer time period, but this pattern may also reflect the imprint of the Soviet system which placed higher education graduates and *nomenklatura* across the country. Perhaps the typical career path is changing, with careers being made within the region of origin.

Educational attainment

An absolute majority of regional legislative elites (almost 90 per cent) have at least one higher education degree: 46 per cent have one degree and 43 per cent have at least two degrees (28 per cent) or a doctorate (Candidate or Doctor of Sciences) (15 per cent). One in ten (11 per cent) of regional elite members has a vocational education degree. Many of these represent industry-oriented regions such as the Sverdlovsk region, and the Kemerovo region, where the share of people with vocational education in the total employed population is relatively high.

Educational attainment of regional political elites is different from the Russian employed population: as of 2017, 45 per cent of the working population have a vocational education degree, 34 per cent have a higher education degree and less than 1 per cent have a doctorate qualification.

The majority of regional elites (82 per cent) attained their highest level of education before entering the first elite position in their career track (positions in regional parliament or management position in regional government). However, continuing education after securing their first elite position is not unusual: 18 per cent either obtained their PhD or received their second higher education degree, usually in economics, management or public administration.

Field of study

The most common fields of study for the regional elite members are engineering and technology (36 per cent), social sciences (23 per cent) and education (12 per cent) (see Table 14.1). Elite members representing relatively old age cohorts which obtained university degrees during the Soviet period specialized mostly in engineering and technology. Elite members of the younger age cohorts who obtained higher education after the collapse of Soviet Union mostly specialized in social science.

These changes correspond to transformations in the national higher education system. Between 1990 and 2002 the share of graduates in social science almost doubled while at the same time there was a reduction in the proportion that were engineering graduates.

Table 14.1   *Distribution of Russian regional political elite by field of*
                    study of highest level of education (combined birth cohorts,
                    from 1927–1940 to 1981–1990)

Field of study	Proportion of total (%)
Engineering and technology	36
Social science	23
Educational science	12
Humanitarian science	9
Medical science	7
Agricultural science	6
Mathematics and natural science	3
Military science	2
Art and culture	1
Total	100

Source: Authors.

We looked at how the educational background of regional elite members is related to the structure of the respective regional economies. We did not find any consistent patterns. For example, in three industry-oriented regions, the larger number of elites studied engineering and technology (38 per cent in Kaluga, 40 per cent in Kemerovo), but in Sverdlovsk it was social sciences (42 per cent) that dominated. In service-oriented regions the specialization focus was more diffused, but engineering and technology fields are strong: 25 per cent in Bryansk, 37 per cent in the Khakassia Republic, 22 per cent in the Altai Republic plus 24 per cent in social sciences.

The Status of Higher Education Institutions

For our analysis we define the leading group of institutions as including only comprehensive universities (in Russia called 'classical universities' in contrast to specialized universities) located in regional capitals. During the Soviet period, they had a special role in training the elite, especially at federal level (Froumin et al., 2014). Comprehensive universities established in the post-Soviet period often resulted from mergers or transformation of a specialized institution. Classical universities expanded after 1990 due to the new programmes in social sciences and business, mostly in economics, law and management. There was also growth in specialized institutions of economics, law, foreign languages, business studies and public administration.

   In our sample, 29 per cent of elite members obtained their university degrees in classical comprehensive institutions. This is comparable to the

Table 14.2　　*Russian universities with the largest number of regional elite members among graduates*

	Number of graduates among regional elite	Number of graduates among regional elite (graduation before 1991)	Number of graduates among regional elite (graduation after 1991)
Ogarev Mordovia State University (B)	57	38	19
Dagestan State University (B)	53	25	28
Lomonosov Moscow State University (A)	51	10	25
Saint-Petersburg State University (A)	45	11	29
Kabardino-Balkarian State University (B)	45	23	8
Tyumen State University (A)	38	9	25
Tomsk State University (A)	37	5	31
North-Eastern Federal University in Yakutsk (B)	33	9	24
South Ural State University (A)	30	14	13
North Ossetia State University (B)	28	8	20
Chuvash State University (B)	28	10	18

Source:　Authors.

share of comprehensive university graduates in the total number of graduates nationally. This means that the regional elite is not recruited mostly from comprehensive universities (Platonova & Semyonov, 2018). However, among the youngest cohorts, those born during 1971–1980 and 1981–1990, the share of those graduated from classical universities is more significant than for the oldest cohorts

In the younger cohorts the role of specialist institutions in engineering and technology declines; as does the share of elite members who graduated from military universities. One possible explanation for the latter is that military graduates typically obtain a regional elite position after a long military career, typically about 20 years. The share of elite members graduated from pedagogical and agricultural universities also decreases over the age cohorts. During the Soviet period agricultural institutes were one of the main regional elite providers in the regions, reflecting the significant share of agriculture in some regional economies, mostly in the southern part of Russia. After 1991 the channels of upward social mobility that existed in the Soviet period for people specialized in agriculture disappeared and the share of people graduated from these universities in the regional elite also decreased. In the post-Soviet period, the prestige of pedagogical education also decreased.

There are also geographical differences across regions. Polytechnical institutions prevail over classical ones in Central, Far Eastern, Siberian and Southern federal districts. In the remaining federal districts (North-Caucasian, Northwestern, Volga), most regional elite members were graduated from classical universities. These differences may be associated with both the structure of regional economies and the geographical distribution of university types.

Table 14.2 sets down the universities with the largest number of regional elite members among their graduates. Leading national universities (Moscow State University and Saint-Petersburg State University) are type A; universities located in national republics are type B.

Are the Elite Groups Shaped by the Same Fields of Study or the Same University?

In order to analyse the homophily level of elite members in terms of the educational background (university, field of study) we have calculated a concentration Herfindahl–Hirschman (HH) index according to the following formula:

$$HH = S_1^2 + S_2^2 + \cdots + S_n^2, where$$

S_i^2 - squared share of elite members in the region

representing particular field of study or university.

The HH index varies from 0.01 to 1, where 1 corresponds to the situation when the whole regional legislature elite have the same educational background and 0.01 corresponds to the situation of the absolute diversity of universities or fields of study. Using this measure the distribution of regions by HH index is quite skewed. In total 49 of the 82 regions where we have data have an HH index within the interval from 0 to 0.1, and 21 have an HH index within the interval 0.1 to 0.2, meaning that there is a high level of diversity in the regional elite group in terms of fields of study. Only two regions have an HH index higher than 0.4 – the Dagestan Republic where most regional elite members studied social science and the Krasnodar region where the dominant field of study among elite members is engineering.

The distribution of regions by HH index measuring diversity of regional elite in terms of their universities is even more skewed. In total 70 of the 83 regions in the data using this measure have an HH of between 0 and 0.15. There are just two regions with high values: the Tatarstan Republic and the Novgorod region. Hence in most regional legislatures, the political elite consists of people representing a wide range of universities and different fields of study.

DISCUSSION AND CONCLUDING REMARKS

Lack of data on the social origin of political elites prevents researchers from establishing correlations between education and family background that could help to answer the key question: does education reproduce inequalities or provide opportunities for upward political mobility? However, our study has taken this domain of research forward in some respects.

The main contribution of the study reported in this chapter has been to connect changes in elite formation with the transformation of the national higher education system and the larger society. The changes in the educational background of the Soviet and post-Soviet elites partly reflect the post-Soviet restructuring of the Russian higher education system and the changing social role of higher education.

Rapid massification of higher education in the USSR and Russia has been an important social process. Stimulated and supported by the Soviet government, which established a nationwide network of higher education institutions and encouraged participation, higher education was a mass sector by the late Soviet period, enrolling about a quarter of the age cohort (Smolentseva et al., 2018). This rate was comparable to the US and Western Europe during that time. Already in the Soviet time, higher education was a social norm for certain social groups such as specialists and public administrators who enrolled their children in higher education even if they had not received it themselves (Konstantinovskiy, 2017). That not only showed the inequality of opportunity in the USSR despite the large-scale efforts to provide opportunities, but also the persistent reproduction of the Soviet elite class, especially those in power and in the *nomenklatura* positions. Most of the Soviet elite had higher education (see, e.g., Semenova, 2012). Not surprisingly, their children also received higher education.

The massification of higher education continually fosters growing aspirations and is a self-reinforcing process. Soviet massification was the platform for a further increase of participation which by the mid-2000s had reached about 50 per cent in Russia (Smolentseva et al., 2018). The national micro-census of 2015 found that 40.5 per cent of the 25–34 age cohort held higher education degrees, though there was an attainment gap between men (33.7 per cent) and women (47.2 per cent) (*Indikatory obrazovania*, 2020). By then having higher education was a social norm for many people, including the political elite. The low level of participation by working-class and peasant families means that the political elite is drawn from the better-off groups for whom higher education is more customary.

Here higher education is not a prerequisite – no one formally requires it – but it is a form of cultural and symbolic capital that has become essential in

elite reproduction. Elite post-holders obtain higher education prior to the first post and often obtain a second degree or a PhD.

Another dimension of higher education is that of field of study where there have been significant changes in graduation patterns. Soviet higher education was strongly oriented towards applied engineering and technology fields: 41 per cent of graduates received engineering degrees in 1988 (*Narodnoe obrzovanie i kultura v SSSR v 1988*, 1989). Over the post-Soviet period, higher education has shifted sharply towards business, economics and management. In 2010, enrolments in those fields comprised 36 per cent, with 22 per cent in engineering. This transformation was driven by the social aspirations of the population and facilitated by the dual-track tuition fee model which enabled public institutions to charge tuition fees in the popular and cheap fields in order to complement shrinking state funding (see Smolentseva et al., 2018, which provides detailed analysis of the changes in higher education). Accordingly, if Soviet elites were mostly educated in the engineering, natural sciences or medicine, the changes in the educational background of the post-Soviet political elites towards business and management reflect the changes in the higher education system.

Previous literature has suggested that for the Soviet elite, a technical or natural science degree was a prerequisite for a high administrative position (e.g., Semenova, 2012), but it does not explain why this remained the case in the late Soviet period, when higher education was already massified. One plausible explanation is that an engineering degree functioned as the mass degree and the Soviet pool of elite recruitment was wide. Further, Soviet career promotion required work experience in industry. The Soviet economy was an industrial economy. To support the working population, higher education institutions offered special two-year courses for those who come from industry (*rabfak*), which provided preparation for entrance examinations. The entire Soviet system worked to promote those with the 'right' social background characteristics: working class or peasantry origin, work experience and education.

In the post-Soviet period, the site of mass higher education shifted from engineering to business, economics or management, including public administration, leading to the corresponding changes in the younger elite generations. This shift was related not only to the structural changes in the economy, from military-industrial to more service-oriented, but also larger societal changes. Modern society no longer requires narrow specializations of the Soviet time. It needs employable and flexible workers with broader knowledge and skills. In an economy where private business is closely related to the public domain, it is not surprising that administrators and managers are prominent in the recruitment pool of the new elites.

However, there are no particularly prestigious majors essential for a place in the regional elite. Even law and economics are not over-represented in the education of the regional political elite – which perhaps differs from the federal elite in this respect. On the other hand, certain fields have definitely declined in importance: pedagogy, health care, agriculture, all of which were more important in elite production in the Soviet Union.

Regional comprehensive universities play an important role in elite formation, as in Soviet times, though it is not a majority role. Deputies in Russia's regional parliaments are represented by graduates from a wide range of higher education institutions. The skew towards elite universities is not highly pronounced for regional political elites. The possession of a university degree or PhD seems to be more relevant than its actual quality or prestige. However, the recent policy emphasis on stratification of higher education institutions, through excellence funding and competition, might affect the formation of the political elite in coming decades.

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